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NEWMAN'S PHILOSOPHY OF EDUCATION

Newman never uttered more prophetic words than when he said: "I write for the future." From his prolific pen we have a vast heritage in history, literature, polemics and philosophy. Education, too, was gained by the keenness of his vision and the clearness of his thought. His ideas on education are scattered here and there throughout his writings. But it is principally in his *Idea of a University* that these views are crystallized, developed and expounded. For every earnest educator this volume of Newman's is a work of surpassing value. Deservedly it holds high rank in educational literature. Its appearance marked an era in the history of things educational in the nineteenth century. Because of it the great Oratorian Cardinal takes his place among those whose writings have been a beacon light to educators the world over. It classes him not with but above Locke and Spencer.

The nineteen lectures which compose the volume were delivered between the years 1851 and 1858, while the author was rector of the Catholic University of Ireland. Writing from Rednal to Dr. Newsham of Ushaw, he says: "As to my lectures, they have cost me no one knows how much thought and anxiety—and again and again I stopped, utterly unable to get on with my subject, and nothing but the intercession of the Blessed Virgin kept me up to my work. At length I have intermitted the course merely because I could not proceed to my satisfaction. For three days I sat at my desk nearly from morning to night, and put aside as worthless at night what I had been doing all day. Then I gave it up and came here, hoping that I should be strengthened to begin again. I am ashamed so to speak, as if I were achieving any great thing, but at my age I do not

work out things as easily as I once did. I say all this however for a sufficient reason. I am sure you will remember me in this as in other matters; and gain for me the light of divine grace, that I may say what is profitable and true, and nothing else." Elsewhere he acknowledges "these views have grown into my whole system of thought, and are, as it were, a part of myself."

Remembering these words, the book takes on a new meaning. Bearing in mind the spirit of prayer and humility with which it was written, we perceive through the intellectual acumen of the author the inspired message of a doctor of the Church. To be rightly understood, the *Idea of a University* should be read in the mental attitude in which it was penned.

Newman cherished the ideals of the past. Oxford in the forties was conservative. In the fifties it was liberal in educational as well as in religious thought. Today Newman may be considered by some even more conservative than Oxford thought him when he left her gates. For him an intelligence test had never been tested. An I.Q. to him was an unknown quantity. But with all his conservatism, his message rings true and his words still live. Not the least among us in the educational arena are proud to be one with him in his theory of intellectual development. It has stood the test of time. Its results are unchallenged.

Not the least portion of the fund of experience which he placed at the disposal of the Church of Rome was his mature views on education. According to Spencer, "education is a preparation for complete living." For Newman it is a state or a condition of the mind, disciplined to the perfection of its powers, which knows and thinks while it knows. And it is the function of every educational institution to develop this mental caliber in its students. All that Newman asserts concerning university education may be applied *mutatis mutandis* to any school from the elementary grades to the college. "The philosophy of education," he says, "is founded on the truths of the natural order."

Well did he recognize with Francis Thompson that "the grim old superstition was right. When man would build to a lasting finish, he must found his building over a child. In the school satchel lie the keys of tomorrow. What gate shall be opened into that morrow, whether a gate of horn, or the gate of ivory

where through the inheritors of our own poor day passed surrounded by so many vain dreams into their inheritance, must rest with them who are still

"In that sweet age
When Heaven's our side the lark."

Even a cursory reader will be impressed by the prominence which Newman gives to theology. He emphasizes strongly its bearing on other knowledge, and the bearing of other knowledge on it. "The important truth little entered into at this day," he says, "is that religious doctrine is knowledge." It is knowledge in as full a sense as Newton's doctrine is knowledge. Any educational system without it is simply unphilosophical. To withdraw it from the schools "is to impair the completeness and to invalidate the trustworthiness of all that is actually taught in them." Knowledge he holds is so great a good that it may be an end in itself. While developing this point he gives us his famous definition of a gentleman, a text which when separated from its context, has a meaning quite different from what the author intended. It portrays the ethical character of the cultivated intellect apart from religious principle. These lineaments "may subserve the education of a St. Francis de Sales or of a Cardinal Pole; they may be the limits of the contemplation of a Shaftesbury or of a Gibbon. Basil and Julian were fellow students at the schools of Athens." This may console some whose students have not measured up to the moral standards set for them.

With theology Newman invites students to acquaint themselves with Holy Scripture. They should know the "general facts about its canon, its history, the Jewish canon, St. Jerome, the Protestant Bible; again about the languages of Scripture, the contents of its separate books, their authors and their versions." And he surprisingly adds that in this he sees no great harm in being superficial.

Thoroughness and accuracy should characterize the elementary studies. This accuracy is only a fitting preparation for the advanced curriculum which may include literature, science, history, economics, mathematics, and the classics. Over all these studies the Church extends a guiding hand. It is a great point he asserts to enlarge the range of subjects even for the sake of

the students. "Though they cannot pursue every subject which is open to them, they will be the gainers by living among those and under those who represent the whole circle." Newman firmly believes in the *genus loci*, where a habit of mind is formed which lasts through life. Large classes he regards not with a friendly eye. An Alma Mater should know her children one by one. "An institution of learning is not a foundry, or a mint, or a treadmill."

Matthew Arnold had a similar thought when he said:

He who works for machinery, he who works for hatred, works only for confusion. Culture looks beyond machinery, culture hates hatred, culture has one great passion, the passion for sweetness and light. It has one even yet greater!—the passion for making them prevail.

While decidedly disagreeing with Locke on the principle of utility, Newman is one with Milton when he writes:

There can be no doubt that every art is improved by confining the professor of it to that single study, but although the art itself is advanced by this concentration of mind, in its service, the individual who is confined to it goes back. The advantage to the community is nearly in an inverse ratio with his own.

Like Pericles of old, Newman wished the fine arts to be developed. Educated Catholics should be lovers of the beautiful, simple in their tastes, cultivating the mind without loss of manliness. Painting, sculpture, architecture and music are to be regarded as friends of religion. "These high ministers of the beautiful and the noble are, it is plain, special attendants and handmaids of religion; but it is equally true that they are apt to forget their place, and unless restrained with a firm hand, instead of being servants, will aim at becoming principals." The whole tenor of Newman's teaching seems to be a repudiation of that superficiality which in his day was entering modern education. A smattering of chemistry, geology, astronomy, political economy, modern history, and biography, all receive his vehement invectives. Recreations are not education. Accomplishments are not education.

Emphatically does Newman insist on the fearless use of the inductive method in science and history. "As to physical science," he says, "of course there can be no real collision between it and Catholicism. Nature and Grace, Reason and

Revelation come from the same Divine Author, whose works cannot contradict each other." Ward holds that in this memorable passage Newman framed the Magna Charta of science. While the interposition of the Church is necessary in schools of science, it is still more imperatively demanded in literature. By literature Newman understands thought. As our thought needs to be guided by sound Catholic philosophy, so our literature should be guided and moulded along the lines set by morality.

A strong and ready memory he holds is a real treasure. But it is no great gain to the intellect to have enlarged the memory at the expense of faculties which are indisputably higher. The practical error of late he complains has been to force upon the student so much that he has rejected all. Against the tyranny of memory and imagination Newman revolts. "A great memory does not make a philosopher any more than a dictionary can be called a grammar."

A liberal education is the foundation of professional skill, for "a cultivated intellect brings with it a power and a grace to every work and occupation which it undertakes, and enables us to be more useful, and to a greater number." Again he asserts, "no education is useful which does not teach us some temporal calling." The exclusive devotion of the intellect to some specific profession Newman does not call *culture* of the intellect. "As the body may be tended, cherished, and exercised with a simple view to its general health, so may the intellect also be generally exercised in order to its perfect state. And this is its cultivation."

All professions have their dangers. The medical profession not less than others. Physicians the world over may well be proud of Newman's farewell lecture at the Irish University of Dublin. It forms the last chapter of the "*Idea of a University*," and was delivered in the School of Medicine after his resignation as rector. With masterly strokes, the great educator outlines the province of medicine and shows how it can aid the Church. This Christ-like profession has ever been fostered by our Holy Mother Church. The many medical schools under her auspices in this country today are simply a tangible proof of her attitude toward the healing art.

Newman fully realized the wide range of Catholic activity

that can be engendered in our institutions of learning. But it should extend beyond the schools into the various paths of life. With a vision that pierced the veil of the future, he saw the value of our professional schools conducted under the shadow of the Church. He glanced down the arches of the years and beheld the modern mission of the Catholic layman. "I want the intellectual layman to be religious," he said, "and the devout ecclesiastic to be intellectual."

As secular power, influence, or resources are never more suitably placed than when they are in the hands of Catholics, so secular knowledge and secular gifts are then best employed when they minister to Divine Revelation. Theologians inculcate the matter, and determine the details of that Revelation; they view it from within; philosophers view it from without, and this external view may be called the Philosophy of Religion, and the office of delineating it externally is most gracefully performed by laymen. In the first ages laymen were most commonly the Apologists.

Newman appreciated at its true value the power of the press. He hoped that by a liberal education students would acquire besides a taste for good literature, a facility for good writing. His words on this point deserve pondering by our educators of today. He says:

When I speak of the formation of a Catholic school of writers, I have respect principally to the matter of what is written, and to composition only so far forth as style is necessary to convey and to recommend the matter. I mean a literature which resembles the literature of the day. This is not a day for great writers, but for good writing, and a great deal of it. There never was a time when men wrote so much and so well, and that without being of any great account themselves.

In summing up this subject he adds: "Catholics must do as their neighbors; they must be content to serve their generation, to promote the interests of religion, to recommend truth, and to edify their brethren today, though their names are to have little weight, and their works are not to last much beyond themselves."

Much of what Newman wrote on preaching can be applied to public speaking in general. We need now as never before men and women who can stand up and face an audience. This requires clear thinking, the power of self-expression combined with self-possession. "Oral expression is a test of intelligence" has

become an axiom in educational circles. To orators Newman holds out several warnings: They should be quite sure that they understand the persons they are addressing. And since common-places are but blunt weapons, special evils should be handled covertly. It is particular topics that penetrate and reach their mark. The subject under discussion should be carefully studied. Accurate thought should be clad in a cautious use of words. In giving this advice, Newman was simply teaching what he himself had ever practiced. Even so unsympathetic a critic as Charles Kingsley acknowledged that "no man knows the use of words better than Dr. Newman."

This accurate knowledge of words reminds us of Ruskin, for whom accuracy was the great difference between education and non-education. The author of *Sesame and Lilies* did not hesitate to say:

You might read all the books in the British Museum (if you could live long enough) and remain an utterly illiterate, uneducated person; but if you read ten pages of a good book letter by letter—that is to say with real accuracy—you are forever more in some measure an educated person.

But unlike Ruskin, Newman takes no heed of the education of women. True in his personal correspondence he evinces great respect for intelligent women, and manifests high regard for their opinion in things of the mind. Still he makes no assertion which shows us what his thoughts were on the question of higher education for women. The argument from silence is frequently fallacious. It is hardly probable that the man who was so far in advance of his time in matters educational would look with disapproval on the competent mental equipment of women for their ever widening field of labor.

The Spartans "had sturdy mothers of a warrior race." Therefore Ruskin would have women developed physically as well as mentally. Psychologists tell us a sound mind is rarer than a sound body. This may account for the scrupulous care the great English art critic and philanthropist would have expended on the intellectual formation of women—a formation differing from that of men—in kind rather than in degree.

A tone of sadness is perceptible in the closing pages of the *Idea of a University*. The years of its writing, lying between 1853 and 1858, have rightly been called a landmark in New-

man's history. He who boasted that he could conduct a university in a tent, felt that his educational efforts in Dublin yielded but barren results. To us looking in the retrospect of seventy years upon that period the mustard seed has grown into a mighty tree. If during those eventful years Newman gave us nothing more than his *Idea of a University*, the world would be the richer and his debtor forevermore. He has held higher than anyone else the standard of a liberal education. He, in the graceful charm of his inimitable style, has delineated its intellectual characteristics—freedom, equableness, calmness, moderation, and wisdom. His educational ideal, "the clear, calm accurate vision and comprehension of all things, with its freedom from littleness and prejudice" speaks eloquently of the eternal order of things, and rings with the music of the spheres. Such mental discipline teaches us how

To see a world in a grain of sand,
And a heaven in a wild flower,
Hold infinity in the palm of our hand,
And eternity in an hour.

With the labors of an Albertus Magnus, a Thomas Aquinas and an Alexander of Hales in his mind, Newman undertook and carried on his work in the Catholic University of Ireland. And like those great educators, he builded better than he knew. We may look on him as an authority in philosophy. He who gave us his *Apologia*, the *Grammar of Assent*, and the *Present Position of Catholics in England* is a name to be conjured with, in dialectics. In polemics, ecclesiastical history, and ethical doctrine his weight is great. Some hold his *Dream* will one day rang him with Aeschylus. And his *Idea of a University* is the great English Catholic classic on the philosophy of education.

J. F. LEIBELL, PH.D.

Georgetown, D. C.

THE JEWS IN THE QUEBEC SCHOOLS

Educators of this country have repeatedly affirmed that denominational schools are an impossibility and have recently alluded to the situation of the Jews in the Province of Quebec as an illustration of the assertion. They claim that the system is not working. If they refer to the status of Catholic and Protestant schools, they will find their answer in the history of those two school systems, that have functioned in harmony for a century almost. If they refer to the Jewish school, they are rather premature in calling it a failure, since the Jews, as yet, have not accepted the responsibility of controlling their own schools. The question should be of deep interest to Catholics in general, because it deals with the principles upon which the Catholic schools in the United States are based and because the advocates of the Public School System brand as a failure one of the most flourishing systems of denominational schools in America.

To understand the present situation a few notions on the character of Quebec's population and the history of its schools are necessary. The population of the province is composed of French Catholics, English-speaking Catholics, English-speaking Protestants and Jews. The other individual groups of Italians, Greeks, Syrians and other Orientals are not numerous enough to bear upon the question at issue. In spite of the fact that three of the predominant groups are classed as English-speaking, the French-speaking Catholics still retain an overwhelming majority. In fact outside the cities of Montreal, Quebec and Sherbrooke no English-speaking group is strong enough to attract attention. French is spoken throughout the province.

The first notable act concerning the administration of these schools dates back to 1846, when an act was passed authorizing taxation for the Protestant minority in Quebec, but the dual school system had been in operation long before that date. That the Protestant element was satisfied with the treatment they received at the hands of the French Catholic majority is evident from the testimony of the Honorable John Rose, of Montreal, speaking before the legislative assembly in 1865, when

the question of educational rights was being discussed prior to the confederation.

Now, we, the English Protestant minority of Lower Canada, cannot forget that whatever right of separate education we have was accorded to us in the most unrestricted way before the union of the provinces (1840), when we were in a minority and entirely in the hands of the French population. We cannot forget that in no way was there any attempt to prevent us from educating our children in the manner we saw fit and deemed best, and I would be untrue to what is just if I forgot to state that the distribution of state funds for educational purposes was made in such a way as to cause no complaint on the part of the minority.

In 1867, when the different provinces were formed into the confederation known as the Dominion of Canada, the educational rights of the Protestant minority in Quebec or Lower Canada and those of the Catholic minority in Ontario or Upper Canada were safeguarded by the provisions of the British North America Act, which is now looked upon as the Constitutional Law of Canada. Its clauses in relation to education are as follows:

93. In and for each province the legislature may exclusively make laws in relation to education, subject and according to the following provisions:

1. Nothing in any such law shall prejudicially affect any right or privilege with respect to denominational schools which any class of persons have by law in the province at the union.

2. All the powers, privileges and duties at the union by law conferred and imposed in Upper Canada on the separate schools and school trustees of the Queen's Roman Catholic subjects shall be and the same are hereby extended to the dissentient schools of the Queen's Protestant and Roman Catholic subjects in Quebec.

3. Where in any province a system of separate or dissentient schools exists by law at the union, or is thereafter established by the legislature of the province, an appeal shall lie to the Governor General in Council from any act or decision of any provincial authority affecting any right or privilege of the Protestant or Roman Catholic minority of the Queen's subjects in relation to education.

4. In case any such provincial law as from time to time seems to the Governor General in Council requisite for the due execution of the provisions of this section is not made, or in case any decision of the Governor General in Council on any appeal

under this section is not duly executed by the provincial authority in that behalf, then and in every such case, and as far only as the circumstances of each case require, the Parliament of Canada may make remedial laws for the due execution of the provisions of this section and of any decision of the Governor General in Council under this section.

From this section of The British North America Act it is apparent that any measure taken by the legislature of a province to deprive the dissentient minority in either province of the educational privileges enjoyed by the majority, will be looked upon as unconstitutional and an appeal to the Governor General in Council or the Parliament will bring redress for the injured party. This fact must be borne in mind when speaking of public education in Ontario as well as in Quebec and in judging the present situation of the Jews in Montreal.

To date there is no Public School System, as such, in the province of Quebec. Although all elementary schools are financed by the government, they are essentially denominational in character. Both parties have their own school boards and control their own schools independently of each other, meeting only when the common interests of both schools are at stake. The taxes are collected in the following manner: there are three panels, the Catholic panel, into which all Catholic property-holders pay their taxes; the Protestant panel, into which all the Protestant property-holders pay theirs; and the neutral panel, which receives all the taxes collected from the corporations and trusts. The revenue of the Catholic and Protestant panels naturally goes to the Catholic and Protestant schools respectively, while that of the third panel is divided between the two schools in proportion to attendance. Some modifications in the distribution of the neutral panel taxes have been recently introduced to meet altered circumstances, of which we shall speak later on.

We might note here that the cost of the Protestant school is almost double that of the Catholics. This is due to the fact that the Catholic property-holders are more numerous and, since their school attendance is greater, they get the lion's share out of the neutral panel. There are approximately 85,000 in the Catholic schools of Montreal, while the Protestant pupils number 35,000. Moreover, Catholic schools are generally manned by religious, and the salary which a religious receives is not even

half of that paid to the ordinary lay teacher. Finally, the Protestants have several high schools under their control, whereas the secondary education of Catholics is taken care of by the numerous colleges of the province, which colleges are private institutions and where a secondary education can be obtained for a very reasonable fee.

By these arrangements Catholic and Protestant children were well taken care of. So far no specific mention had been made of foreigners, except that they were to enjoy all the rights of British subjects. The problem of their education was not considered when the constitution was drafted. As Sinclair Laird says: "Early Colonists, treaty makers and law givers only contemplated the existence of Roman Catholics and Protestants in the province; accordingly they blithely divided the population into Roman Catholics and Protestants." In the course of time, however, the number of Jews increased and immigration brought a quota of Greeks, Syrians, Chinese and Mohammedans to Montreal. In 1875 a Jewish panel was established so that the Jews could attend either school, but the arrangement was unsatisfactory and was not put into operation. In 1903 the Jews arranged with the Protestants to have their children educated in the Protestant schools, and the provincial government sanctioned the contract. In this agreement, which preceded the Act of 1903, there was a clause protecting the status of Protestant schools: "The school system shall be as heretofore, distinctly Protestant and, therefore, Christian." There was also a conscience clause for the Jews, exempting them from religion and Bible classes.

This is the system that has been in force for the past twenty years. Changes of conditions, however, have called for alterations in school legislation. In 1903 there were 1,375 Jews in the Protestant schools of Montreal. Today they number 13,954 out of a total attendance of 35,372 pupils. Moreover, 40 per cent of the total expenditure goes to pay for the education of the Jews, whereas the revenue paid into the Protestant school board by the Jews is only 20 or 22 per cent. The Protestant schools were therefore losing money by educating the Jews. The Protestants bore the extra burden cheerfully until the Jews placed the last straw on the camel's back by demanding representation on the Protestant board.

Seeing that the situation was getting beyond them, the Protestants secured the passing of an act by the legislature in 1923, whereby, (1) the Jews were classed with other non-Catholics and non-Protestants, (2) giving all the right to attend either Catholic or Protestant schools, (3) arranging that the taxes of these neutrals be paid into the neutral panel and that both Catholic and Protestant schools be reimbursed from the neutral panel for the cost of educating these neutrals on a "per capita" basis as a first charge on the neutral panel before distribution to the Catholic and Protestant schools in proportion to school attendance.

Thus the financial loss accruing from the cost of educating Jews and other neutrals was compensated, but there still remained a few points to be settled to the satisfaction of both parties. On the one hand, the Protestants objected to the disorder caused in the classes by the difference between Christian and Jewish holidays. While the Jews were absent on these occasions the other pupils had to mark time until they returned. Some parents even complained of the faulty English accent which their children had acquired from their contact with Jewish children, in schools where the latter were very numerous. On the other hand, the Jews maintained that the alterations of the Act of 1903 formed a violation of their rights, and since the latter system had been in existence for twenty years they looked upon the 1903 as their "magna charta" in matters educational. They objected to being classed as neutrals and were insistent in demanding representation on the school board.

This latter demand of the Jews spurred the Montreal school board on to further action. Having learned "by eminent legal counsel" that the Act of 1903, making the Jews Protestants for the purposes of education, was "*ultra vires*," they drew up a bill which is now before the legislature of the province. The bill reads as follows:

1. Chapter ten of title five of the revised statutes of the Province of Quebec, 1909, is replaced by the following:

3046. The two systems of public instruction in the Province of Quebec, the Roman Catholic, controlled by Catholic boards, and the Protestant, controlled by Protestant boards, shall be maintained.

3047. Persons of non-Roman Catholic and non-Protestant religions shall have the privilege of attending the schools of

either the Roman Catholic or Protestant systems subject to such regulations as shall be legally made from time to time by any board, and subject also to the payment of the same fees, if any, as may be required of Roman Catholic or Protestant pupils as the case may be.

3048. The cost of educating non-Roman Catholic and non-Protestant pupils in the schools of either system shall be a charge on the neutral panel.

3049. The amount to be paid to any school board in the province each year for the aforesaid service shall be determined as follows: On or before the fifteenth of September of each year every board concerned shall cause to be prepared, a statement, duly certified by its chairman and secretary-treasurer and approved by the resolution of the board, showing separately (a) the total enrolment of all pupils in its schools and (b) the total enrollment of all non-Roman Catholic and non-Protestant pupils in its schools, both up to the thirtieth of April of the preceding school year, and a statement certified by the auditor of the board showing the total expenditure, exclusive of capital expenditure, made by the board during the preceding school year.

The division of the total expenditure of any board by the total enrollment of pupils in its schools will establish the "per capita" cost, and this cost multiplied by the total enrolment of non-Roman Catholic and non-Protestant pupils will determine the cost to which the board is entitled. The balance of the neutral panel fund is to be divided between the Roman Catholic and Protestant boards according to law. In the cities of Montreal and Quebec, the two statements hereinbefore referred to shall be sent to the City Treasurer on or before the fifteenth day of September of each year.

3050. The assessors in every municipality shall indicate upon the valuation rolls all non-Roman Catholic and non-Protestant proprietors by placing the letter "N" opposite their names.

3051. Non-Roman Catholics and non-Protestant proprietors shall be taxed at the rates fixed from time to time for the Roman Catholic or the Protestant panel, whichever rate is the greater. In the cities of Montreal and Quebec, these taxes shall be included in the neutral panel. In all other municipalities such taxes shall be collected and distributed by the school board which collects the school taxes levied on incorporated companies.

2. The act 13, George V, chapter 44, is hereby repealed.

3. Article 3050 of this act shall go into effect immediately and the remainder of the act shall go into effect on July first, nineteen hundred and twenty-four.

This bill was at first introduced as a private bill for the Montreal School Board but has now become a public bill applicable to the entire province. If passed, the Protestants admit very

frankly that they intend to segregate the Jews in their schools. The Jews are unanimously opposed to the bill, although they are divided into three factions on the measures to be taken to remedy the present situation. Some, under the leadership of a Montreal member of the Legislative Assembly, Peter Bercovitch, are in favor of leaving things in the *statu quo* and question "the eminent legal authority" that declared the 1903 Act *ultra vires*. Others favor the formation of a separate panel for the Jews; while a lesser number would have certain schools distinctly Jewish in atmosphere, controlled by a Jewish subcommittee, under the administration of the Protestant School Board. The Protestants and the majority of the Jews do not look favorably upon this latter plan, and the whole matter now hinges on the question whether the present status is to be maintained or a Jewish panel established.

In view of all these facts it is difficult to say just which course would be the better. The Protestant schools are distinctly Protestant, and a Jew has no more right to sit on their board than on that of the Catholics. In the course of the recent discussions in the Quebec House, Mr. Bercovitch pointed out that "while a Jew might be a member of the Supreme Court of the United States, a Chief Justice of the High Court of England and even Viceroy of India, he could not be a member of the Protestant School Board of Montreal"; the Provincial Treasurer replied "that the positions referred to were posts where things material only were dealt with. Once on the school board the family and the home was touched and religious matters became involved." If the present regulation is carried out, the Jews will be without representation, but the financial side of the question will be adjusted and by taxing neutrals at the higher rate the Protestants will be adequately compensated and the Catholics protected, for it is evident that otherwise the neutrals would choose the Catholic schools where the rate of taxation is much lower. Even the option of attending either schools must not be taken to the letter. The Catholics are not in a position to accommodate 13,000 additional pupils; they have not sufficient accommodation for their own pupils. They have recently sought permission to float a loan for \$6,000,000 to build schools, as their school attendance increases at the rate of 3,000 per annum.

The better solution, perhaps, is the formation of a separate panel for the Jews. They cannot secure representation otherwise and willy nilly they will be obliged to go to the Protestant school, where segregation will very likely follow. The plan may have its drawbacks; the Jews will form another distinct group in the community, but will that be any more dangerous than the present distinct groups of English Protestants or English Catholics, who mix very little with each other and less with the French? It is true that the school is the great melting-pot for citizenship, but are there not other opportunities, in social and commercial life, for the Jews to come in contact with Canadians and acquire civic virtues? Again, they will be obliged to defray the cost of their own school, but there is no injustice there; the other denominations are doing likewise. Moreover, the advantages to be derived from the Jewish schools should outweigh these objections. The Jews would receive religious instruction, which they do not receive now; they would learn something of their own language and literature, which is not worthless (at present only 3,000 or 4,000 have this opportunity). There is little danger that such a course would be to the detriment of Canadian citizenship, for, as Mr. Fitch, the chairman of the Jewish Separate School Committee, remarks:

A Jewish school would give to the Jewish child the same secular education he now receives; a Hebrew education which he now misses, usually altogether, would produce a better Jew and a better citizen. It would relieve the Protestants of a problem which must be settled sooner or later. Each element, free to work out its own destiny without interference with the other, could do better work and both could thus contribute to the country without friction the best of each.

WILLIAM M. RYAN.

AN EVALUATION OF SOME GROUP INTELLIGENCE TESTS

The large number and varied assortment of tests of general ability necessitates a careful selection of the best of these. This selection must be based upon several qualifications which tests of value must possess.¹ The most important of these are that such measurements be true and objective appraisals of the ability under consideration and that they be constant in the information that they convey. Since absolute standards of validity are lacking, it is necessary to resort to criteria that are more or less indirect. The necessity of such evaluations is very real whether the tests be of general ability or of achievement. Tests of both kinds are being used on a large scale, and a proper selection cannot be overemphasized. Some valuable contributions towards a solution of this problem have appeared. For group intelligence tests various criteria have been utilized. The most frequent of these consist in the agreement demonstrated by the scale in question with a number of other tests, with individual tests, teachers' estimates and academic marks. Attention is now being directed with added emphasis towards the structure of such tests and the value of their component parts. It is not unlikely that the near future will be marked by endeavors to measure special abilities. General intelligence is undoubtedly composed of a number of specific abilities that are more or less distinct and which will have to be analyzed before an accurate index of general ability is obtained. It would appear that this is the direction of progress and that only in this way can tests of general ability be rescued from a condition that threatens to amount to stagnation. Memory, judgment, reasoning, perception and attention should be amenable to comparatively accurate quantitative experiment. By forming the results of such measures into a composite a true scale of general ability could probably be obtained.

In endeavoring to select from available tests those best suited for use in high school, a group of about 150 high school fresh-

¹For a summary of these attributes, cf., Hubbell, L. G., "Criteria for Selection of Educational Tests." *CATHOLIC EDUCATIONAL REVIEW*, 1923, Vol. XXI, p. 18.

men were given five group tests during December, 1923.² The tests employed for this purpose were the Dearborn Group Tests of Intelligence, Series II, revised edition; the Miller Mental Ability Test; the Terman Group Test of Mental Ability; the Otis Group Intelligence Scale, advanced examination; and the Morgan Mental Test. The usual care was observed in all the work and the results are believed to be entirely trustworthy. The correlations between the various tests were calculated by the product-moment method. These correlations, together with their corresponding probable errors and the number of cases included, are presented in Table I. In computing these correlations the scores of *all* the students who took both tests involved were utilized. The two parts of the Dearborn, as well as the total, have been included separately.

TABLE I

	Dearborn II C	Dearborn II D	Dearborn C and D	Otis	Miller	Morgan	Terman
Dearborn II C.....	.....	0.565	0.838	0.556	0.482	0.396	0.594
		0.036	0.016	0.038	0.046	0.044	0.036
		(155)	(158)	(148)	(128)	(156)	(145)
Dearborn II D....	0.565	.....	0.890	0.652	0.596	0.388	0.578
	0.036	.....	0.011	0.028	0.038	0.046	0.037
	(155)	.....	(158)	(146)	(129)	(154)	(144)
Dearborn C and D.	0.838	0.890	.....	0.690	0.604	0.450	0.698
	0.016	0.011	.....	0.029	0.038	0.043	0.029
	(158)	(158)	.....	(143)	(124)	(150)	(140)
Otis.....	0.556	0.652	0.690	.....	0.737	0.733	0.753
	0.038	0.028	0.029	.....	0.028	0.025	0.025
	(148)	(146)	(143)	.....	(120)	(145)	(136)
Miller....	0.482	0.596	0.604	0.737	.....	0.527	0.666
	0.046	0.038	0.038	0.028	.....	0.043	0.034
	(128)	(129)	(124)	(120)	.....	(127)	(118)
Morgan...	0.396	0.388	0.450	0.733	0.527	.....	0.545
	0.044	0.0458	0.043	0.025	0.043	.....	0.038
	(156)	(154)	(150)	(145)	(127)	.....	(149)
Terman...	0.594	0.578	0.698	0.753	0.666	0.545	.....
	0.036	0.037	0.029	0.025	0.034	0.038	.....
	(145)	(144)	(140)	(136)	(118)	(149)	.....

A considerable variation in the correlations is revealed. The Otis is consistent in its high correlations with all the other tests

²The author takes this opportunity of expressing his appreciation to Rev. Fr. A. J. Sawkins, Principal of the Central Catholic High School, Toledo, Ohio, and to the teachers of the same school for their very valuable assistance in the present study.

while the majority of the Morgan correlations are low. The reasons for this difference are suggested by the nature and structure of the two tests. The Otis test is composed of ten subtests which cover a fairly wide range of abilities. It is therefore more inclusive than scales which contain a smaller number of parts. The Morgan is dissimilar to all the others. There is no classification of the questions of this test into groups of similar nature. The content of successive questions is seldom the same. The Morgan thus necessitates a continual rearrangement of the student's constellation of ideas. It places a premium on mental flexibility and capacity to adjust quickly to changing conditions. Undoubtedly this is a function of general intelligence but whether or not this is the optimum method of gauging general ability is open to question. From available data at hand the problem of the relative values of the two types of arrangement cannot be answered. Few reports have been made of the agreement shown between this test and academic success and it is accordingly impossible to estimate the degree of this utility. The correlations of Table I are in substantial agreement with those that have been obtained by others³ and if anything are probably more reliable as they are based on a larger number of cases. It appears that the Terman and Otis and to a lesser extent the Miller measure approximately the same abilities. This is verified by an inspection of the material they contain. Less information is possessed on the Dearborn and the Morgan. The correlation of 0.73 between the Otis and the Morgan is very considerably higher than the coefficient of 0.59 obtained by Viteles⁴ with the same tests. Here again the larger number of cases of this study probably exerts an influence.

Several studies have been reported of the amount of displacement contributed to by various combinations of tests.⁵ The

³For a summary of previous studies and an extensive bibliography reference should be made to A. M. Jordan, "The Validation of Intelligence Tests," *Journal of Educational Psychology*, Vol. XIV, 1923, pp. 348-366, 414-428.

⁴Morris S. Viteles: A Comparison of Three Tests of "General Intelligence," *Journal of Applied Psychology*, Vol. 6, 1922, pp. 391-402.

⁵Jordan, *loc. cit.*

Breed, F. S. and Breslich, E. R.: "Intelligence and Classification of Pupils," *School Review*, Vol. XXX, 1922, pp. 51-66, 210-226.

Holzinger, Karl J.: "The Classification of Pupils by Intelligence Tests," *Journal of Educational Research*, Vol. V, 1922, pp. 92-93.

TABLE II

Tests	n	r	P. E.	Av. D.	D 0	D 1	D 2	D 3	D 4	D one or more	D two or more	D three or more
Dearborn II C and Dearborn D.....	155	0.565	0.036	1.057	32.22	36.08	26.00	5.70	0	67.78	31.70	5.70
Dearborn II C and Dearborn Total.....	158	0.838	0.016	0.535	49.69	47.13	8.18	0	0	50.31	9.18	0
Dearborn II C and Otis.....	148	0.556	0.038	0.940	36.73	38.10	19.73	5.44	0	63.27	25.17	5.44
Dearborn II C and Miller.....	128	0.482	0.046	1.172	28.91	38.28	20.31	11.72	0.78	71.09	32.81	12.50
Dearborn II C and Morgan.....	156	0.396	0.044	1.154	33.34	31.41	24.36	8.33	2.56	62.66	31.25	10.89
Dearborn II C and Terman.....	145	0.594	0.056	0.910	37.30	38.50	20.00	3.45	0.70	62.70	24.15	4.15
Dearborn II D and Dearborn Total.....	158	0.890	0.158	0.535	52.20	42.14	5.66	0	0	47.80	5.66	0
Dearborn II D and Otis.....	146	0.652	0.028	0.850	39.64	42.20	12.11	6.05	0	60.36	18.16	6.05
Dearborn II D and Miller.....	129	0.596	0.038	1.062	35.16	35.16	18.75	10.15	0.78	64.84	29.68	10.93
Dearborn II D and Morgan.....	154	0.988	0.046	1.113	33.33	36.17	18.44	9.93	2.13	66.67	30.50	12.06
Dearborn II D and Terman.....	144	0.578	0.037	0.965	34.70	40.90	17.30	6.94	0	65.14	24.34	6.94
Dearborn Total and Otis.....	143	0.690	0.029	0.800	43.70	38.20	15.28	2.77	0	56.25	18.05	2.77
Dearborn Total and Miller.....	124	0.604	0.038	0.992	37.10	37.10	16.13	8.87	0.80	62.90	25.80	9.67
Dearborn Total and Morgan.....	150	0.450	0.043	1.087	31.54	50.90	22.16	6.04	2.01	68.41	30.21	8.05
Dearborn Total and Terman.....	138	0.698	0.029	0.840	40.00	42.00	10.14	7.25	0	59.39	17.39	7.25
Otis and Miller.....	120	0.737	0.028	0.756	46.22	37.00	11.76	5.04	0	53.80	16.80	5.04
Otis and Morgan.....	145	0.733	0.025	1.000	31.94	44.44	16.00	7.62	0	68.06	23.62	7.62
Otis and Terman.....	136	0.753	0.035	0.669	50.00	36.03	11.03	2.90	0	49.96	13.93	2.90
Miller and Morgan.....	127	0.527	0.043	1.250	29.70	36.72	16.40	14.84	2.34	70.30	33.58	17.18
Miller and Terman.....	118	0.666	0.034	0.881	38.98	40.00	15.25	5.95	0	61.19	21.19	5.94
Morgan and Terman.....	147	0.545	0.038	0.898	42.18	34.70	15.00	7.48	0.68	57.86	23.16	8.16

amount of displacement was obtained by classifying the pupils into five groups of equal numbers and designating these groups 1, 2, 3, 4 and 5. The tests were then paired and the class difference obtained for each individual. The percentage who were located within the same class (D-0), the percentage displaced one class (D-1), etc., are given in Table II. The average displacement was calculated by multiplying the number displaced by the amount and dividing by the number of scores. It is evident that this average displacement (Av. D.) is very similar to the coefficient of correlation in indicating the correspondence between tests and in general high correlations are accompanied by low average displacements. On account of the number of cases the displacements were computed on a basis of fifths. Had thirds or fourths been used as has been customary, the average displacements would be reduced. The amount of displacement is large and calls attention to the misleading tendency of correlations ordinarily regarded as high.

The main criterion employed in this study is the extent of agreement which the various tests manifest with all the other tests. The scores on all tests were reduced to a common basis and each test correlated with an average of the others. Only the scores of those pupils who had been present for all the tests were employed. This reduced the number to 98 which is, however, sufficiently large for reliable results. The reduction of the

TABLE III.—*Correlation of Tests with Composites*

<i>Test</i>	<i>r</i>	<i>P. E.</i>
Dearborn	0.543	.048
Miller	0.655	.039
Morgan	0.535	.048
Otis	0.785	.026
Terman	0.831	.021

n 98

number has undoubtedly influenced the correlations. It is possible that many cases contributing to high correlations have been excluded for the coefficients are far from being as large as usual. The Terman and the Otis agree more closely than the others with this criterion. If this is accepted as the standard by which tests should be evaluated there is a striking difference between the various ones employed here.

The Terman and the Otis usually correlate higher with school marks than do most other tests. If this standard is set up con-

siderable differences between the various tests will be revealed. On account of the great influence which many other factors play in academic success this standard is not only useless but also misleading. Volition, effort, interest, social adjustments, emotional factors, previous school success, these and many others exercise an important influence. To require that a test should correlate highly with class excellence is tantamount to demanding that it measure the varied traits that are not identical with intelligence. The poverty of this criterion is not sufficiently recognized.

An important element in the selection of tests is their general usefulness. This is not the sole criterion nor even the main one. The primary requisites are validity and reliability. When these are satisfied the ease with which a test can be given and scored commend it to general use. While there can be but little difference in the interpretation of statistical results, personal opinion will exert itself in favor of different tests. The Dearborn requires two periods amounting to fifty minutes of actual working time. It is cumbersome to correct. These factors cannot but have an influence on its popularity. The Miller has no administrative handicaps but the scoring of the papers is slow and tedious. The Morgan excels in both respects. The Otis is long, requiring 42 minutes for the test to which must be added about 25 minutes for the distribution of the papers and reading of the instructions. The Terman probably is the most popular test from an administrative point of view.

The present study and several others present evidence that for most purposes the Terman is superior to most if not all other advanced group tests. There is no great difference between it and the Otis but other factors being equal its greater ease of administration and correction should commend it to those seeking as trustworthy a measure as educational psychology possesses at present for the group measurement of general ability.

JOHN W. RAUTH.

THE METHOD OF THE HIGH-SCHOOL RELIGION COURSE

Methods will vary according to aims, teacher, place and general run of students. If the course is built around Our Lord the students will naturally look to the influence of His principles on the teacher. We fail where the saints succeeded precisely because of our own weak imitation of Christ. But, waiving that point, the success of any method will largely depend upon the personality and equipment of the teacher. What succeeds with one, however, may not be adaptable to another. It behooves each teacher to find out his own best way of handling the matter that has been determined upon. Again, a high school that draws its students from different grade schools may, by force of circumstances, be compelled to employ methods differing somewhat from the parish high school. For the attitudes that children bring with them and the environment of their lives condition in certain ways the matter to be treated. Also the urban type of student that has had multitudinous sense impressions so early in life presents a different problem from the rural type.

Due to present-day conditions the writer has found it practical to devote the first year in a boarding high school entirely to the Catechism, giving a definite review of the Creed and the Commandments, and making an effort to instil some personal knowledge of Our Lord aside from the text. Prayers have to be relearned, much else has to be unlearned, and much effort spent in arousing those who have never been keyed up spiritually. Students have to realize the influence that their choice of companions will have on them.

Where the New Testament is not employed in the first year it should logically come in the second. But for reasons given in the next paragraph the writer is about to try the experiment of placing it in the third year. The Mass and the Sacraments will thus be shifted to the second year. Experienced teachers have written often and well on the various methods of teaching appreciation of the Mass. Their advice and the discussions in the "Proceedings of the Catholic Educational Association" give sufficient light on this subject. Father Sullivan's book, "The Visible Church," is also a great aid for this year.

The third year is typically the "gang" year. It is the dangerous period, the all-important time when attitudes are adopted. The simple, childlike faith has now passed; strong moorings are henceforth needed. The youth is being born into a new world, a world in which people look downward as well as upward. And the best antidote for this period seems to be Christ Himself. So the New Testament might be placed in this year and all effort made to bring out of it a personality of Christ that will attract the students, that will balance them in their indecision, their shyness and their reserve. They do not now seek advice so readily; they search rather for their own ideals. So the unobtrusive work of the teacher is to supply something that they will eagerly seize upon. To whatever objects they do give their affections, they bestow them with intensity. An incident is recalled of a student of this age who had decidedly "rough" leanings. There came to speak, at the school he attended, one of the country's greatest orators. The boy listened to him with rapt attention; he observed the gestures, the style and the personality in general. He had found his lodestar. Imitation of his hero began and soon effected a remarkable change in his attitudes and demeanor. The spur there given lasted throughout his college and university courses and has pushed him to the top in his profession. With proper presentation might not Christ also touch some American hearts with His outstretched hand of strong manhood. Indeed the strong character of Christ seems to be the best antidote for the tendency to attach themselves to lower personalities. True, Christ might touch them without our weak interference, but He deigned at least to call us fishers of men.

There is another side to this question. Young people do not always discriminate in the acquiring of attachments. They sometimes give their interest and affections to persons or things not altogether worthy of such attachment. When disillusionment comes, when the person is seen in real light and the flaws of character revealed the shock is so great that never again will that youth trust human nature. If every young heart were anchored in Christ, there would not be this danger at the break in human trust. He would be possessed of props more than natural. "Holy Father, keep them in Thy Name, whom Thou hast given Me." Older teachers inform us that many vocations

seem to be lost in high school. The third year is the particular time of falling off. Perhaps many of those who struggle, unnoticed, within themselves might have their heart changed or strengthened by being made to understand that Christ understands them and could lead them to great things, whether as His own special helpers or as leaders among the laity.

The content and methods of the fourth year depend largely on the practical needs of the student. Since a very large percentage of high-school graduates do not enter Catholic colleges it behooves us to shape the course accordingly. Any textbook or catechism understandingly mastered would give our students fine equipment, but the cold facts face us that the students do not seem prepared. The fault can hardly be traced to any one source; there is a multiplicity of reasons for this situation. The writer has been attempting to meet present-day conditions by giving out mimeographed notes that have to be studied by the students, and then discussions and explanations take place in class. The course begins with the existence of God, an Intelligent Director, then man's relations with that Being, which relations were made sufficiently clear by various messengers divinely sent, eminent among whom was the God-Man of Galilee, Who proved Himself to be divine and an accredited messenger of the Director of this world. This God-Man is shown to have left a visible organization behind Him to carry on His work. This visible organization is traced through apostolic times, through the first century, the second and the third to the fourth, then in the early Middle Ages and in the thirteenth century, through the period of the Rebellion, the recovery and regaining of strength, until, at the beginning of the second semester the Church is seen as a world-wide force, youthful in its vigor, certain in its stand, constant in its methods, and, above all, faithful in its adherence to the principles of Christ. The Church is shown as standing behind her children in their problems, giving them surety of spiritual outlook and sane attitudes on questions that affect their spiritual well-being. Catholic homes, the true idea of matrimony, Catholic schools and charitable works are treated in a manner intended to meet conditions of the day. Attitudes toward labor and capital, divorce, mixed marriages, are frankly discussed. The point is insisted upon that their solution of these problems must

be influenced by their loyalty to Christ. By actual reading they become familiar with parts of the Bible, and scriptural difficulties are given some consideration. But above all every effort is spent in having them become "doers of the word" and to "prove all things; hold fast that which is good," that they may know how to possess themselves "in sanctification and honor."

The personality of Christ must run through these four years, so that every phase of His life becomes familiar. "That they may know Him and the power of His resurrection and the fellowship of His suffering." To further this work the yearnings of the young heart have to be intensely observed and studied and the presentation of Christ made in such a manner as will satisfy these yearnings. The practice of seeking solutions of all spiritual problems directly from Him is continually encouraged. They are asked to recall His presence frequently—when on the street car or at work, praying through Him, walking with Him, abiding in Him and always showing loyalty to Him.

Repeatedly and repeatedly the students must be made to realize that they are the arbiters of their own destiny, painters of their own eternal portraits, that God has placed in their own hands the building of their characters. They will be for all eternity just what they make themselves to be. If young people are from time to time sobered by this thought they will more easily see the need of spiritual model. The most discouraging fact in teaching is that so few have any definite idea of just what kind of a Catholic they ought to be. They lack ideals. It does not occur to them that the same laws of imitation and practice are required in the spiritual as in the athletic line. Some of this can be overcome by frequently asking them if they are consciously shaping their lives after that of Our Lord's. The laws of habit must be often explained. Perhaps few students realize that every time they are mean to a fellow-student they are molding themselves into mean men and women.

This insistence on personal effort must be continual on the part of the teacher. We all know well enough that it does take a heart of stone not to be touched by the appeal of Christ. An older teacher has remarked well about the magnetism of Christ's innocence—how it draws—how it compels imitation.

It must be admitted, however, that high-school students have not yet felt the reverses that drive many to the heart of Christ. And though they will be drawn by Christ's manliness, and strength of character and understandingness, yet it is not sufficient to simply expose these qualities of Christ; the main point is to see that there is a response to the stimulation. "Put you on the Lord Jesus Christ" means personal effort, enduring effort, self-sacrificing effort. The bishop who remarked that the Sacraments were never meant as a substitute for individual effort must have had good reasons for his statement. Perhaps he thought that simply herding the sheep into pasture is not quite sufficient. "Get them to go to the Sacraments, and that is enough," followed as a general policy, might degenerate into hypocritical group practice. A priest recently remarked that he had seen some daily communicants who showed no signs whatever of personal love of Christ. They seemed to have missed the point. Their Divine Master was not real to them. They had made a home for Him, but the fire was never enkindled, the divine warmth of His acknowledged presence was not there. Much private work and individual counseling is required to start the student on this personal effort. But the right spirit once begun in a class is contagious and the contagion should gradually go out from the teacher and thus render the student's effort more easy.

In our full days of distractions teachers are sadly aware of this necessity of frequent repetition of important truths. Despite all the realization of necessity of personal effort that we can bring home to them many devices will yet have to be worked up to insure the permanency of these same realizations. The practice can gradually be induced of getting students to spend some time daily in withdrawal into the quiet of their own minds. They must be willing to spend some time alone with themselves. Each class can be begun with the presentation of some problem that students meet in life. Attitudes can be asked from the students and then discussion for a few minutes. In the following class a strict accounting of the previous discussion can be demanded. They may not be allowed to take notes on these discussions, and so, if the teacher has a scheme of discussing the same problem under different guises for a month or more there can be some assurance that the students

will have spent some time and thought on the matter. For instance, from September to December the exact meaning of the Divinity of Christ can be demanded at any time. Or, take the truth of a student's accountability to God for all that he has received—health, talents, disposition, home, etc. This truth can be demanded under so many different lights that the substance of it will soon be driven into the minds of the students. Different fundamental truths can be scheduled for the different years of high school.

The different truths of the Catechism can well be pointed out in the New Testament. In each class questions can be given out and in finding the answers for these the students will be brought into contact with all of the important dogmas and will thus be given the basis for belief. Such doctrines as the primacy, the power to bind and loose, the proofs of Christ's Divinity, the authority of the Church, the Eucharist, can be pointed out in their Scriptural settings. Important texts should be memorized and the students thus worked into the habit of backing up their beliefs with Scriptural quotations. Christ's attitudes toward various questions can be noted on the very occasions on which they were pronounced. This will aid the student in later going directly to Christ for a solution of his spiritual problems.

The lack of ideals on the part of the student has been remarked. Sad experience likewise demonstrates the aimlessness of many in regard to a life occupation. A partial remedy might be found in handing out at the beginning of each year a 5 by 8 inch card to each student on which is typed his name and three headings—purpose, means and result. Under the first the student succinctly writes what he expects to be in life, or, at least, the purpose of his being in school this year. Then he writes the means he intends to take during the year to reach his end. The teacher keeps the card on file, but in June returns it to the student and he writes in the results of his year's work. Has he advanced toward his goal? The teacher then keeps the card till the following year, when it is returned to the student and he again answers the same three headings. Likewise in the third and fourth years. The same card can be employed through all the course; much need not be written. But at the end of the course the student is confronted with a record of

his ambitions and failures or successes. The matter is all personal and confidential and the cards signed privately, so that the student need not feel that confidences have been betrayed. If the teacher has his confidence the card system may help to give a student a more definite aim.

A library of good books is very helpful. The fourth year pupils seem particularly anxious to read anything that will benefit them. Boys' books are now quite abundant, and a style can be had both for young and older boys. One boy wrote of a book: "It gives you illustrations of sneaks and dishonesty in such a manner that you are bound to make resolutions against the following of any of these vices." Every volume of a life of a saint that is at all interesting and appealing to youth should be at hand. Father Fink's "Paul, Hero and Saint" has been literally read to pieces by those hungry for such tales. American students feel the impulse of doing great things for Christ. They are capable of imitating the saints: "These lives make us want to emulate them in their virtues," are the words of a wide-awake American boy. But too frequently these same boys have had their higher emotions stifled by being surfeited with a lower brand of ideals. Even the good wishes of a friend: "I want to see you make good," leave the boy with the impression that money is the only standard of success. If the good wishes were for character development and noble achievement we might have some finer types. Fiction can likewise be made to do good work. The most popular novel among boys is still Benson's "Come Rack, Come Rope." The later arrivals in the field, such as "No Handicap," also spur to noble effort. In regard to foreign missions every American child would benefit by the reading of the story of Theophane Venard or Just de Bretenieres or of Father Stanton, S.J.

Paintings of various scenes of Christ Life might be used in high school as well as in the grades, and their deeper significations brought out. The influence of Hoffman's "Boy Christ" has already been referred to. The deepest impressions, of course, of these paintings can be made in childhood and if explained will never be effaced. Hawthorne's story of "The Great Stone Face" brings out this fact. People knew not that to the boy Ernest the "Great Stone Face" had become a teacher, and that the sentiment which was expressed in it would enlarge the young

man's heart, and fill it with wider and deeper sympathies than other hearts. They knew not that thence would come a better wisdom than could be learned from books, and a better life than could be moulded on the defaced example of other human lives. So, too, could youthful hearts be impressed by holy pictures in the home. Different copies of the masterpieces can now be easily secured for use in high school. Drawings from events of the New Testament can be made on the board to visualize the various scenes.

The idea of social service can easily be brought out from these pictures or drawings. On every page of the Gospels there shines forth the word "service." Students will soon pass from spectators to doers if given the impulse. The teacher can, from time to time, check them up on whether or not they are putting into practice the corporal and spiritual works of mercy. Offering their Communions for their fellow-students, for the welfare of their companions, will aid them in taking for their motto the motto of the N. C. W. Conference, "Faith and Service."

We desire every future priest to be an "alter Christus"; we want our professional and business and working men to be Christ-like men—morally strong, inwardly clean and fundamentally loyal because of their attachment to Him; we wish every Catholic girl to take her place with Mary beneath the cross—a place of dignity, a position of honor. We want the spirit of Christ to reign in every Catholic home—a home where mother moulds to high ideals and father sets noble example. All of this can never be done unless more time is spent in "putting on Christ," in getting close to Christ personally, in knowing Him through suffering. When a good percentage of American youths can say: "To me to live is Christ," then can we hope for the "peace of Christ in the reign of Christ."

W. H. RUSSELL,
*Columbia College,
Dubuque, Iowa.*

FOSSIL PEDIGREES

(Conclusion)

Nor are the epicyclic subterfuges of the evolutionary geologist confined to "deceptive conformities" and "overthrusts." His inventive genius has hit upon other methods of explaining away inconvenient facts. When, for example, "younger" fossils are found interbedded with "older" fossils, and the discrepancy in time is not too great, he rids himself of the difficulty of their premature appearance by calling them a "*pioneer colony*." Similarly, when a group of "characteristic" fossils occur in one age, skip another "age," and recur in a third, he recognizes the possibility of "*recurrent faunas*," some of these faunas having as many as five successive "recurrences." Clearly, the assumption of *gradual approximation* and the dogma that the lower preceded the higher forms of life are things to be saved at all costs, and it is a foregone conclusion that no fact will be suffered to conflict with these irrevisable articles of evolutionary faith. "What is the use," exclaims Price, "of pretending that we are investigating a problem of natural science, *if we already know beforehand that the lower and more generalized forms of animals and plants came into existence first, and the higher and the more specialized came only long afterwards*, and that specimens of all these successive types have been pigeonholed in the rocks in order to help us illustrate this wonderful truth?" (*Op. cit.*, pp. 667, 668.)

The predominance of *extinct species* in certain formations is said to be an independent argument of their great age. Most of the species of organisms found as fossils in Cambrian, Ordovician and Silurian rocks are extinct, whereas modern types abound in Cretaceous and Tertiary rocks. Hence it is claimed that the former must be vastly older than the latter. But this argument gratuitously assumes the substantial perfection of the stone-record of ancient life and unwarrantedly excludes the possibility of an impoverishment of the world's flora and fauna as the result of a sweeping catastrophe, of which our present species are the fortunate survivors. Now the fact that certain floras and faunas *skip entire systems* of rocks to reap-

pear only in later formations is proof positive that the record of ancient life is far from being complete, and we have in the abundant fossil remains of tropical plants and animals, found in what are now the frozen arctic regions, unmistakable evidence of a sudden catastrophic change by which a once genial climate "was abruptly terminated. For carcasses of the Siberian elephants were frozen so suddenly and so completely that the flesh has remained untainted" (Dana). Again, the mere fact of extinction tells us nothing about the *time* of the extinction. For this we are obliged to fall back on the index fossil whose *inherent time-value* is based on the theory of evolution and not on stratigraphy. Hence the argument from *extinct species* is not an independent argument.

To sum up, therefore, the aprioristic evolutionary series of fossils is not a genuine time-scale. The only safe criterion of comparative age is that of stratigraphic *superposition*, and this is inapplicable outside of limited local areas. The index fossil is a reliable basis for the chronological correlation of beds only in case one is convinced on other grounds of the actuality of evolution, but for the unbiased inquirer it is destitute of any *inherent time-value*. In other words, we can no longer be sure that a given formation is old merely because it happens to contain Cambrian fossils, nor that a rock is young merely because it chances to contain Tertiary fossils. Our present classification of rocks according to their fossil contents is purely arbitrary and artificial, being tantamount to nothing more than a mere *taxonomical classification of the forms of ancient life on our globe*, irrespective of their comparative antiquity. This scheme of classification is, indeed, universally applicable, and places can usually be found in it for new fossiliferous strata, whenever and wherever discovered. Its universal applicability, however, is due not to any prevalent order of invariable sequence among fossiliferous strata, but solely to the fact that the *laws of biological taxonomy and ecology* are *universal laws* which transcend spatial and temporal limitation. If a scheme of taxonomy is truly *scientific*, all forms of life, whether extant or extinct, will fit into it quite readily.

The anomalies of *spatial distribution* constitute a sixth difficulty for transformistic palaeontology. In constructing a phylogeny the most diverse and widely separated regions are put

under tribute to furnish the requisite fossils, no heed being paid to what are now at any rate impassable geographical barriers, not to speak of the climatic and environmental limitations which restrict the migrations of non-cosmopolitan species within the boundaries of narrow habitats. Hypothetical lineages of a modern form of life are frequently constructed from fossil remains found in two or more continents separated from one another by immense distances and vast oceanic expanses. When taxed with failure to plausibleize this procedure, the evolutionist meets the difficulty by hypothecating wholesale and devious *migrations* to and fro, and by raising up alleged *land-bridges* to accommodate plants and animals in their suppositional migrations from one continent to another, etc.

The European horse, with his so-called ancestry interred partly in the Tertiary deposits of Europe, but mostly in those of North America, is a typical instance of these anomalies in geographical distribution. It would, of course, be preposterous to suppose that two independent lines of descent could have fortuitously terminated in the production of one and the same type, namely, the genus *Equus*. Moreover, to admit for a moment that the extinct American *Equus* and the extant European *Equus* had *converged* by similar stages from distinct origins would be equivalent, as we have seen, to a surrender of the basic postulate that structural similarity rests on the principle of *inheritance*. Nothing remains, therefore, but to hypothecate a Tertiary *land-bridge* between Europe and North America.

Modern geologists, however, are beginning to resent these arbitrary interferences with their science in the interest of biological theories. Land-bridges, they rightly insist, should be demonstrated by means of *positive geological evidence* and not by the mere exigencies of a hypothetical genealogy. Whosoever postulates a land-bridge between continents should be able to adduce solid reasons, and to assign a mechanism capable of accomplishing the five-mile uplift necessary to bring a deep-sea bottom to the surface of the hydrosphere. Such an idea is extravagant and not to be easily entertained in our day, when geologists are beginning to understand the principle of *isostasy*. Today, the crust of the earth, that is, the entire surface of the lithosphere, is conceived as being constituted of earth-columns, all of which rest with equal weight upon the level of complete

compensation, which exists at depth of some 76 miles below land-surfaces. At this depth viscous flows and undertows of the earth take place, compensating all differences of gravitational stress. Hence the materials constituting a mountain-column are thought to be less dense than those constituting the surrounding lowland-columns, and for this reason the mountains are buoyed up above the surrounding landscape. The columns under ocean-bottoms, on the contrary, are thought to consist of heavy materials like basalt, which tend to depress the column. To raise a sea-floor, therefore, some means of rarification of these materials would have to be available. Arthur B. Coleman called attention to this difficulty in his Presidential Address to the Geological Society of America (December 29, 1915), and we cannot do better than quote his own statement of the matter here:

"Admitting," he says, "that in the beginning the lithosphere bulged up in places, so as to form continents, and sagged in other places, so as to form ocean beds, there are interesting problems presented as to the permanence of land and seas. All will admit marginal changes affecting large areas, but these encroachments of the sea on the continents and the later retreats may be of quite a subordinate kind, not implying an interchange of deep-sea bottoms and land surfaces. The essential permanence of continents and oceans has been firmly held by many geologists, notably Dana among the older ones, and seems reasonable; but there are geologists, especially palaeontologists, who display great recklessness in rearranging land and sea. The trend of a mountain range, or the convenience of a running bird, or a marsupial afraid to wet his feet seems sufficient warrant for hoisting up any sea-bottom to connect continent with continent. A Gondwana Land arises in place of an Indian Ocean and sweeps across to South America, so that a spore-bearing plant can follow up an ice age; or an Atlantic ties New England to Old England to help out the migrations of a shallow-water fauna; or a 'Lost Land of Agulhas' joins South Africa and India.

"It is curious to find these revolutionary suggestions made at a time when geodesists are demonstrating that the earth's crust over large areas, and perhaps everywhere, approaches a state of isostatic equilibrium, and that isostatic compensation

is probably complete at a depth of only 76 miles" . . . and (having noted the difference of density that must exist between the continental, and submarine, earth-columns). Coleman would have us bear in mind "that to transform great areas of sea bottom into land it would be necessary either to expand the rock beneath by several per cent or to replace heavy rock, such as basalt, by lighter materials, such as granite. There is no obvious way in which the rock beneath a sea bottom can be expanded enough to lift it 20,000 feet, as would be necessary in parts of the Indian Ocean, to form a Gondwana land; so one must assume that light rocks replace heavy ones beneath a million square miles of ocean floor. Even with unlimited time, it is hard to imagine a mechanism that could do the work, and no convincing geological evidence can be brought forward to show that such a thing ever took place. . . . The distribution of plants and animals should be arranged for by other means than by the wholesale elevation of ocean beds to make dry-land bridges for them." (*Smithson. Inst. Rpt. for 1916*, pp. 269-271.)

A seventh anomaly of palaeontological phylogeny is what may be described as *contrariety of direction*. We are asked to believe for example, that in *mammals* racial development resulted in *dimensional increase*. The primitive ancestor of mammoths, mastodons and elephants is alleged to have been the *Moeritherium*, "a small tapir-like form, from the Middle Eocene Qasrel-Sagha beds of the Fayûm in Egypt. . . . Moeritherium measured about 3½ feet in height." (Lull: *Smithson. Inst. Rpt. for 1908*, pp. 655, 656.) The ancestor of the modern horse, we are told, was "a little animal less than a foot in height, known as *Eohippus*, from the rocks of the Eocene age." (Woodruff: *Foundations of Biology*, p. 361.) In the case of *insects*, on the other hand, we are asked to believe the exact reverse, namely, that racial development brought about *dimensional reduction*. "In the middle of the Upper Carboniferous period," says Anton Handlirsch, "the forest swamps were populated with cockroaches about as long as a finger, dragonflylike creatures with a wing spread of about 2½ feet, while insects that resemble our mayflies were as big as a hand." (*Die fossilen Insekten, und die Phylogenie der recenten Formen*, 1908, L. c., p. 1150.) Contracting one of these giant palaeozoic dragonflies, *Meganeura monyi* Brongn., with the largest of modern dragonflies, *Aeschna grandis*

L., Cheterikov exclaims with reference to the latter: "What a pitiful pigmy it is and its specific name (*grandis*) sounds like such a mockery." (*Smithson. Inst. Rpt. for 1918*, p. 446.) Cheterikov, it is true, proposes a *teleological* reason for this progressive *diminution*, but the fact remains that for dysteleological evolutionism, which dispenses with the postulate of a *Providential* coordination and regulation of natural agencies, this *diminuendo* of the "evolving" insects stands in irreconcilable opposition to the *crescendo* of the "evolving" mammals, and constitutes a difficulty which a purely mechanistic philosophy can never surmount.

Not to prolong excessively this already protracted enumeration of discrepancies between fossil fact and evolutionary assumption, we shall mention, as an eighth and final difficulty, the indubitable *persistence of unchanged organic types* from the earliest geological epochs down to the present time. This phenomenon is all the more wonderful in view of the fact that the decision as to which are to be the "older" and which the "younger" strata rests with the evolutionary geologist, who is naturally disinclined to admit the antiquity of strata containing modern types, and whose position as arbiter enables him to date formations aprioristically according to the exigencies of the transformistic theory. Using, as he does, the *absence of modern types* as an express criterion of age, and having, as it were, his pick among the various fossiliferous deposits, one would expect him to be eminently successful in eliminating from the stratigraphic groups selected for senior honors all strata containing fossil types identical with modern forms. Since, however, even the most ingenious sort of geological gerrymandering fails to make this elimination complete, we must conclude that the evidence for *persistence of type* is inescapable and valid under any assumption.

When we speak of *persistent types*, we mean *generic*, and *specific*, rather than *phyletic*, types, although it is assuredly true that the persistence of the great phyla, from their abrupt and contemporaneous appearance in Cambrian and pre-Cambrian rocks down to the present day, constitutes a strong difficulty for progressive evolution in general and monophyletic evolution in particular. All the great invertebrate types, such as the protozoa, the annelida, the brachiopoda, and large crustaceans

called eurypterids, are found in rocks of the Proterozoic group, despite the damaged condition of the Archaean record, while in the Cambrian they are represented by a great profusion of forms. "The Lower Cambrian species," says Dana, "have not the simplicity of structure that would naturally be looked for in the earliest Paleozoic life. They are perfect of their kind and highly specialized structures. No steps from simple kinds leading up to them have been discovered; no line from the protozoans up to corals, echinoderms, or worms, or from either of these groups up to brachiopods, mollusks, trilobites, or other crustaceans. This appearance of abruptness in the introduction of Cambrian life is one of the striking facts made known by geology." (*Manual*, p. 487.) Thus, as we go backward in time, we find the great organic phylums retaining their identity and showing no tendency to converge towards a common origin in one or a few ancestral types. For this reason, as we shall see presently, geologists are beginning to relegate the evolutionary process to *unknown depths* below the explored portion of the "geological column." What may lurk in these unfathomed profundities, it is, of course, impossible to say, but, if we are to judge by that part of the column which is actually exposed to view, there is no indication whatever of a steady progression from lower, to higher, degrees of organization, and it takes all the imperturbable idealism of a scientific doctrinaire to discern in such random, abrupt and unrelated "origins" any evidence of what Blackwelder styles "a slow but steady increase in complexity of structure and in function." (*Science*, Jan. 27, 1922, p. 90.)

But, while the permanence of *phyletic* types excludes *progress*, that of *generic* and *specific* types excludes *change*, and hence it is in the latter phenomenon, especially, that the theory of transformism encounters a formidable difficulty. Palaeobotany furnishes numerous examples of the *persistence* of unchanged plant forms. Ferns identical with the modern genus *Marattia* occur in rocks of the Palaeozoic group. Cycads indistinguishable from the extant genera *Zamia* and *Cycas* are found in strata belonging to the Triassic system, etc., etc.

The same is true of animal types. In all the phyla some genera and even species have *persisted* unchanged from the oldest strata down to the present day. Among the *protozoa*, for example, we have the genus *Globigerina* (one of the Foram-

nifera), some modern species of which are identical with those found in the Cretaceous. To quote the words of the Protozoologist, Charles A. Kofoed: "The Protozoa are found in the oldest fossiliferous rocks and the genera of Radiolaria therein conform rather closely to genera living today, while the fossil Dinoflagellata of the flints of Delitzsch are scarcely distinguishable from species living in the modern seas. The striking similarities of the most ancient fossil Protozoa to recent ones afford some ground for the inference that the Protozoa living today differ but little from those when life was young." (*Science*, April 6, 1923, p. 397.)

The metazoa offer similar examples of *persistence*. Among the *coelenterates*, we have the genus *Springopora*, whose representatives from the *Carboniferous* limestones closely resemble some of the present-day reef builders of the East Indies. Species of the *brachiopod* genera *Lingula* and *Crania* occurring in the *Cambrian* rocks are indistinguishable from species living today, while two other modern genera of brachiopods, namely, *Rhynchonella* and *Discina*, are represented among the fossils found in *Mesozoic* formations. *Terebratulina striata*, a fossil species of brachiopod occurring in rocks belonging to the *Cretaceous* system, is identical with our modern species *Terebratulina caput serpentis*. Among the mollusks such genera as *Arca*, *Nucula*, *Lucina*, *Astarte* and *Nautilus* have had a continuous existence since the *Silurian*, while the genera *Lima* and *Pecten* can be traced back to the *Permian*. One genus *Pleurotomaria* goes back to *pre-Cambrian* times. As to *Tertiary* fossils, Wood Wood informs us that "in some of the later *Cainozoic* formations as many as 90 per cent of the species of mollusks are still living" (*Palaeontology*, 1st ed., p. 2). Among the *echinoderms*, two genera, *Cidaris* (a sea urchin) and *Pentacrinus* (a crinoid), may be mentioned as being persistent since the *Triassic* ("oldest" system of the *Mesozoic* group). Among the *arthropods*, the horseshoe crab *Limulus polyphemus* has had a continuous existence since the *Lias* (i.e., the lowest series of the *Jurassic* system). Even among the *vertebrates* we have instances of *persistence*. The extant Australian genus *Ceratodus*, a *Dipnoan*, has been in existence since the *Triassic*. Among the fossils of the *Jurassic* (middle system of the *Mesozoic* group), *Sharks*, *Rays*, and *Chimaeroids* occur in practically modern forms, while some

of the so-called "ganoids" are extremely similar to our present *sturgeons* and *gar pikes*—"Some of the Jurassic fishes approximate the teleosts so closely that it seems arbitrary to call them ganoids" (Scott).

The instances of *persistence* enumerated above are those acknowledged by evolutionary palaeontologists themselves. This list could be extended somewhat by the addition of several other examples, but even so, it would still be small and insufficient to tip the scales decisively in favor of Fixism. On the other hand, we must not forget that the paucity of this list is due in large measure to the fact that our present method of classifying fossiliferous strata was deliberately framed with a view to excluding formations containing modern types from the class of "ancient" beds. Moreover, orthodox palaeontology has minimized the facts of *persistence* to an extent unwarranted even by its own premises. As the following considerations indicate, the actual number of *persistent types* is far greater, even according to the evolutionary time-scale, than the figure commonly assigned.

First of all, we must take into account the deplorable, if not absolutely dishonest, practice, which is in vogue, of *inventing new names for the fossil duplicates of modern species*, in order to disguise or gloss over an identity which conflicts with evolutionary preconceptions. When a given formation fails to fit into the accepted scheme by reason of its fossil anachronisms, or when, to quote the words of Price, "species are found in kinds of rock where they are not at all expected, and where, according to the prevailing theories, it is quite incredible that they should be found. . . . the not very honorable expedient is resorted to of *inventing a new name*, specific or even generic, to disguise and gloss over the strange similarity between them and the others which have already been assigned to wholly different formations" (*The New Geology*, p. 291). The same observation is made by Heilprin. "It is practically certain," says the latter, "that numerous forms of life, exhibiting no distinctive characters of their own, are constituted into distinct species for no other reason than that they occur in formations widely separated from those holding their nearest kin" (*Geographical and Geological Distribution of Animals*, pp. 183, 184). An instance of this practice occurs in the foregoing list, where a fossil brachiopod identical with a modern species receives the new

specific name "*striata*." Its influence is also manifest in Scott's scrupulosity overcalling teleosts "ganoids."

We must also take into account the *imperfection of the fossil record*, which is proved by the fact that most of the acknowledged "persistent types" listed above "*skip*" whole systems and even groups of "later" rocks (which are said to represent enormous intervals of time), only to reappear, at last, in modern times. It is evident that their existence has been continuous, and yet they are not represented in the intervening strata. Clearly, then, the fossil record is imperfect, and we must conclude that many of our modern types actually did exist in the remote past, without, however, leaving behind any vestige of their former presence.

Again, we must frankly confess our profound *ignorance* with respect to the total number and kinds of species living in our modern seas. Hence our conventional distinction between "extinct" and "extant" species has only a provisory value. Future discoveries will unquestionably force us to admit that many of the species now classed as "extinct" are, in reality living forms, which must be added to our list of "persistent types." "It is by no means improbable," says Heilprin, "that many of the older genera, now recognized as distinct by reason of our imperfect knowledge concerning their true relationships, have in reality representatives in the modern sea" (*op. cit.* pp. 203, 204).

Finally, the whole of our taxonomy of both living and fossil species stands badly in need of *revision*. In the light of *genetical* research, we can not avoid recognizing that there has been too much "splitting" of organic groups on the basis of differences that are merely *varietal* or *somatic*. Many fossil forms classed as *distinct species*, or even as *new genera*, are merely the *fluctuants*, *mutants*, or *hybrids* of well-known species living to-day. When due allowance is made for the variations due to *mutation* and *hybridization*, the number of distinct species will undergo considerable shrinkage. Nor must we overlook the possibility and range of *environmental modification*. Many organisms such as mollusks undergo profound alterations as the result of a change in their environment, though alterations of this sort do not affect the *specific genotype* or *germinal constitution of the race*. In the degree that these allowances are

made, the number of *persistent types* will grow and the number of *distinct species* decrease. Such a revision, we have said, is badly needed. But it means that hundreds of thousands of described species must needs be reviewed for the purpose of weeding out the *duplicates*, and who will have the knowledge, the courage, or even the span of life necessary to accomplish so gigantic a task?

But so far as the practical purposes of our argument are concerned, the accepted list of *persistent types* needs no amplification. It suffices to establish the *central fact*, which, for the rest, is admitted by everyone, that some *generic* and even *specific* types have remained *unchanged* throughout the enormous lapse of time which has intervened between the deposition of the oldest strata and the advent of the present age. Our current theories, far from diminishing the significance of this fact, tend to intensify it by computing the duration of such *persistence* in millions, rather than in thousands, of years. Now, whatever one's views may be on the subject of transformism, this prolonged permanence of certain genera and species is an indubitable fact, which is utterly irreconcilable with a *universal* law of organic evolution. The theory of transformism is impotent to explain an exception so palpable as this; for *persistence* and *transmutation* cannot be subsumed under one and the same principle. That which accounts for *change* cannot account for *unchange*. Yet *unchange* is an *observed fact*, while the *change*, in this case, is an *inferred hypothesis*. Hence, even if we accept the principle of transformism, there will always be scope for the principle of permanence. The *extraordinary tenacity of type* manifested by *persistent* genera and species is a phenomenon deserving of far more careful study and investigation than the evolutionarily-minded scientist of today deigns to bestow upon it. To the latter it may seem of little consequence, but, to the genuine scientist, the *actual* persistence of types should be of no less interest than their *possible* variability.

With these reflections, our criticism of the palaeontological argument terminates. The enumeration of its various deficiencies was not intended as a refutation. To *disprove* the theory of organic evolution is a feat beyond our power to accomplish. We can only adduce *negative* evidence, whose scope is to show that the various evolutionary arguments are inconsequential or in-

conclusive. We cannot rob the theory of its intrinsic possibility, and sheer justice compels us to confess that certain facts like those of symbiotic preadaptation lend themselves more readily to a transformistic, than to a fixistic, interpretation. On the other hand, nothing is gained by ignoring flaws so obvious and glaring as those which mar the cogency of palaeontological "evidence." The man who would gloss them over is no true friend either of Science or of the *scientific* theory of Evolution! They represent so many real problems to be frankly faced and fully solved, before the palaeontological argument can become a *genuine demonstration*, and, until such time as a demonstration of this sort is forthcoming, the evolutionist must not presume to cram his unsubstantiated theory down our reasonably reluctant throats. To accept as *certain* what remains *unproved*, is to compromise our intellectual sincerity. *True certainty*, which rests on the recognition of *objective necessity*, will never be attainable so long as difficulties that sap the very base of evolutionary argumentation are left unanswered; and, as for those who, in the teeth of discordant factual evidence, profess, nevertheless, to have *certainty* regarding the "fact" of evolution, we can only say that such persons cannot have a very high or exacting conception of what *scientific certainty* really means.

For the rest, it cannot even be said that the palaeontological record furnishes good *circumstantial* evidence that our globe has been the scene of a process of organic evolution. In fact, so utterly at variance with this view is the total impression conveyed by the visible portion of the *geological column*, that the modern geologist proposes, as we have seen, to probe depths beneath its lowest strata for traces of that alleged transmutation, which higher horizons do not reveal. There are six to eight thick terranes below the Cambrian, we are told, and igneous masses that were formerly supposed to be basal have turned out to be *intrusions* into sedimentary accumulations, all of which is, of course, fortunate for the theory of organic evolution, as furnishing it with a sadly-needed new court of appeal. The bottom, so to speak, has dropped out of the geological column, and Prof. T. C. Chamberlin announces the fact as follows: "The sharp division into two parts, a lifeless igneous base and a sedimentary fossiliferous superstructure, has given place to the general concept of continuity with merely minor oscillations in times

and regions of major activity. Life has been traced much below the Cambrian, but its record is very imperfect. The recent discoveries of more ample and varied life in the lower Palaeozoic, particularly the Cambrian, implies, under current evolutionary philosophy, a very great downward extension of life. In the judgment of some biologists and geologists, this extension probably reaches below all the pre-Cambrian terranes as yet recognized, though this pre-Cambrian extension is great. The "Azoic" bottom has retired to depths unknown. This profoundly changes the life aspect of the "column" (*Science*, Feb. 8, 1924, p. 128). All this is doubtless true, but such an appeal, from the *known* to the *unknown*, from the *actual* to the *possible*, is not far-removed from a confession of scientific insolvency. Life must, of course, have had an earlier history than that recorded in the pre-Cambrian rocks. But even supposing that some portion of an earlier record should become accessible to us, it could not be expected to throw much light on the problem of organic origins. Most of the primordial sediments must long since have been eroded away and engulfed in fiery magmas, while terraneless deep have, in all probability, been so metamorphosed that every trace of their fossil contents has perished. The sub-Archaeon beginnings of life will thus remain shrouded forever in a mystery, which we have no prospect of dispelling. Hence it is the exposed portion of the *geological column* which continues and will continue to be our sole source of information, and it is preeminently on this basis that the evolutionary issue will have to be decided.

Yet what could be more aenigmatic than the rock record as it stands? For in nature it possesses none of that idealized integrity and coherence, with which geology has invested it for the purpose of making it understandable. Rather it is a mighty chaos of scattered and fragmentary fossiliferous formations, whose baffling complexity, discontinuity and ambiguity tax the ingenuity of the most sagacious interpreter. Transformism is the key to one possible synthesis, which might serve to unify that intricate mass of facts, but it is idle to pretend that this theory is the unique and necessary corollary of the facts as we find them. The palaeontological argument is simply a theoretical construction which presupposes evolution instead of proving it. Its classic pedigrees of the horse, the camel and the elephant are

only credible when we have assumed the "fact" of evolution, and even then, upon condition that they claim to approximate, rather than assign, the actual ancestry of the animals in question. In palaeontology as in the field of zoology, evolution is not a conclusion, but an interpretation. In palaeontology, otherwise than in the field of genetics, evolution is not amenable to the check of experimental tests, because here it deals not with that which *is*, but with that which *was*. Here its sole objective basis is the mutilated and partially-obliterated record of a march of events, which no one has observed and which will never be repeated. These obscure and fragmentary vestiges of a vanished past, by reason of their very incompleteness, lend themselves quite readily to all sorts of theories and all sorts of speculation. Of the "Stone Book of the Universe" we may say with truth that which Oliver Wendell Holmes says of the privately-interpreted Bible, namely, that its readers take from it the same views which they had previously brought to it. "I am, however, thoroughly persuaded," says the late Yves Delage, "that one is or is not a transformist, not so much *for reasons deduced from natural history*, as for motives based on personal philosophic opinions. If there existed some other *scientific* hypothesis besides that of descent to explain the origin of species, many transformists would abandon their present opinion as not being sufficiently demonstrated. . . . If one takes his stand upon the exclusive ground of the facts, it must be acknowledged that the formation of one species from another species has not been demonstrated at all" (*L'hérédité et les grands problèmes de la biologie générale*, Paris, 1903, pp. 204, 322).

BARRY O'TOOLE, PH.D., D.D.,
St. Vincent Archabbey.

CLASSICAL SECTION

Inquiries on any phase of the teaching of the Classics are earnestly sought by the editor of this section. If these questions are of sufficient general interest, they will be answered in these columns, otherwise by correspondence. Teachers of the Classics are also urged to send us such information as devices, etc., which they have evolved through their own experiences and may wish to place at the disposal of others.

I. Points of Emphasis in First Year Latin. See "Classical Section" for February.

II. Points of Emphasis in Second Year Latin. See "Classical Section" for March.

III. Points of Emphasis in Third Year Latin.

1. A review of the entire grammar, forms and syntax. It is a common experience that students of the first year know their forms better than students of later years. The teacher should be on her guard against any such retrogression in the knowledge of fundamentals.

2. A review of the words learned in previous years and the memorizing of about 500 new words taken from a recognized vocabulary. Special study should be given to: (a) Verbal nouns in *or*, *ium*, *men*, *mentum*, *bulum*, *culum*, *crum*, *trum*; (b) Adjectives in *ilis*, *bilis*, and those having the various endings signifying "pertaining to" or "belonging to"; (c) Denominative, frequentative, and intensive verbs.

3. "Composition" amounting to about one recitation per week. Here the principles of syntax emphasized in the previous years should be reviewed. The exercises should, as far as possible, be made up of simple forms of connected discourse based on the Cicero text.

4. The reading of Cicero's orations against Catiline I, II, III, IV, and his "Manilian Law." Any two of these may be read at sight.

5. Some idea of Roman politics at this, its most impressive period; and some idea of the Roman constitution. These ideas should be contrasted with those of our own government. Attention should also be given to the social life and customs of the Romans of Cicero's time.

Some teachers follow the excellent practice of putting some

one of the recognized "Vocabularies for High School Latin" into the hands of students at the very beginning of their course; and, from the beginning to the end of the four years, the student is busy acquiring in a conscious way a well-chosen working vocabulary. Without some such special effort to learn Latin words, the student's vocabulary, at the end of four years of study, is liable to be largely an accidental accumulation of words, many of which may not be of common occurrence.

The chief difficulty in learning the workings of the cumbersome Roman calendar lies in the inability to remember exactly when the Kalends, Nones, and Ides occur in the various months. The following jingles will be found helpful:

In March, October, July, and May
The Ides come on the fifteenth day,
The Nones, the seventh,
All else besides
Have two days less for Nones and Ides.

* * *

In March, July, October, May,
Nones are the seventh, Ides, the fifteenth day;
In other months they two days earlier fall.
The month's first day the Romans Calends call,
And one, then backward count, and you will find
The date as offered to the Roman mind.

To the many teachers who are called upon to teach Latin without having received the opportunity to fit themselves properly for their task, and to all others who wish to maintain a lively interest in their subject, which alone can bring success, the following suggestions of Prof. Evan T. Sage should prove most useful:

1. Join the regional association operating in your territory, join the American Classical League, and, if there is a local classical association near at hand, join it also. Attend their meetings and take an active part in them.

2. Subscribe to and read *The Classical Weekly* and *The Classical Journal*. Get your name on the mailing list of Latin Notes, published by the Classical Service Bureau, and of as many of the News Letters and Bulletins issued by various colleges as you can.

3. When in difficulty, appeal to the Classical Service Bureau or to your nearest college Latin department.

4. Plan to carry extension courses or, preferably, to attend a summer session this year.

5. Read some new Latin or Greek every day.

It is indeed most gratifying to see the ever-increasing number of Sisters who are working along just these lines. However, a great many more need to do likewise.

The following announcement has been made by the Service Bureau for Classical Teachers, at Teachers College, Columbia University, New York:

The Bureau has a limited number of sets of material on hand which are now being sent out in answer to requests. It is expected that these packages will not be kept longer than ten days and that they will be returned with postage for transmission. The material deals with the following topics:

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|----------------------|--------------------------|
| 1. Teaching Latin | 10. Vergil |
| 2. Courses of Study | 11. Rome and the Romans |
| 3. Vocabulary | 12. Classical Mythology |
| 4. Translation | 13. Classical Clubs |
| 5. Forms and Syntax | 14. Equipment |
| 6. Prose Composition | 15. Value of Latin |
| 7. First Year Latin | 16. Training Courses |
| 8. Caesar | 17. Latin Tests |
| 9. Cicero | 18. The Classical Survey |

A consensus of opinion seems to prevail that the year of Caesar is the greatest stumbling block for all who would dig deeply in Latin studies. How do you usually conduct your class in Caesar? Miss Laura Buckley of the Chillicothe, Mo., High School, writes to Prof. Ullman:

The plan that seemed the most successful in my Caesar class last year was a rapid reading of the previous lesson in good English, than a detailed study of the assignment. The constructions were discussed after the lesson had been read and the content understood. After all questions had been answered, the lesson was read without error, or hesitation, and with regard to the phrasing used. A written lesson, used intermittently, was an incentive to those prone to slight the translation. At the end of the year each student handed in some article he had made, or a theme on assigned topics. The members of the class seemed to enjoy this.

A party of American, Canadian, and English scholars will gather in Paris April 1 to start on a two-year expedition for the classification, photographing, and preservation to posterity of

the ancient documents, papyri, and inscriptions of Asia Minor. This expedition, which has been made possible by a gift of \$100,000 from an anonymous friend, is under the auspices of the University of Michigan.

Prof. Francis W. Kelsey, head of the classical department of the university (Michigan), and former president of the Archaeological Institute of America, will be in charge of the expedition. The party will include Prof. E. R. Boak, Michigan; Prof. David M. Robinson, Johns Hopkins University; Prof. Thomas Callender, Queens University, Kingston, Ont.; Prof. H. G. Evelyn White, Leeds University, England; George R. Swain, technical expert in photography, Ann Arbor; and Enoch P. Peterson and Orlando W. Qualley, fellows of the University of Michigan.

Higher classical studies in the United States lost another of its pioneers on December 29 in the death of Prof. Moses S. Slaughter, chairman of the department of classics in the University of Wisconsin. Part of the resolution passed in his honor by the faculty of the University of Wisconsin outlines his career and reads:

Moses Stephen Slaughter, born at Brooklyn, Ind., October 3, 1860; graduate of De Pauw University, 1883; doctor of philosophy Johns Hopkins University, 1891; student at Berlin and Munich, 1893-4; instructor at Bryn Mawr College, 1887-8; Collegiate Institute, Hackettstown, New Jersey, 1888-9; professor at Iowa College, 1889-96; ranking professor of Latin in the University of Wisconsin since 1896; annual professor in the American School of Classical Studies in Rome, 1909-10; major in the Italian Commission of the American Red Cross Service in the District of Venice, 1918-19; died in Rome, where he was on leave of absence accompanied by Mrs. Slaughter, at midnight on December 29, 1923.

The Year's Work in Classical Studies, 1922-1923, edited for the Council of the Classical Association by D. S. Robertson, and published by J. W. Arrowsmith, Ltd., Quay Street, Bristol, England, has just appeared. This is the sixteenth year of its issue. The present volume gives a résumé, with terse but pointed remarks throughout, of the work accomplished in the following departments of classical studies: Greek Literature, Latin Literature, Greek History, Roman History, Greek and Roman Religion,

Ancient Philosophy, Greek Palaeography and Textual Criticism, Latin Palaeography and Textual Criticism, Greek Archaeology and Excavation, Italian Archaeology and Excavation. Although some important omissions occur, the great majority of the important publications are recorded, and the busy teacher may through this publication keep up with the new work accomplished in his particular field. Single copies or a permanent subscription may be obtained by writing to the publisher.

Some new books are:

The Hellenistic Age. Essays by J. B. Bury, E. A. Barber, Edwyn Bevan, and W. W. Tarn. Cambridge University Press. This is a very important work for students of history, presenting all the information on the period obtained from newly discovered inscriptions and papyri.

Who's Who in the Early Church, by Rev. W. C. Piercy. Faith Press, London. An encyclopaedia of the more outstanding typical or topically interesting of the orthodox Christians of the first eight centuries. Heretics and schismatics will be treated in another volume.

The Growth of the City State, by W. R. Halliday. University Press of Liverpool, England.

Lectures on the History of Roman Religion from Numa to Augustus, by W. R. Halliday. University Press of Liverpool, England.

Greek Literary Criticism, by J. D. Denniston. J. M. Dent, London.

Elementary Lessons in Latin, by Otto A. Wall. C. V. Mosby and Co., St. Louis, Mo. A text for students preparing for a course in Pharmacy.

Ludi Persici: Original Plays for the Teaching of Latin to Middle Forms in Schools, with an Introduction to the Method of Using the Book in Class, by R. B. Appleton. Oxford University Press.

The latest additions to the *Our Debt to Greece and Rome* series (published by Marshall Jones Co., 212 Summer Street, Boston, Mass.) are *Mythology*, by Jane Ellen Harrison; *Architecture*, by Alfred Mansfield Brooks; and *Stoicism*, by Robert M. Wenley.

ROY J. DEFERRARI.

AFFILIATED HIGH SCHOOL AND COLLEGE SECTION

OFFICIAL NOTICE

Requests have been received from some of the schools affiliated during the past year for a few examples of the reading matter of French 1, page 20, of the syllabus. The following list of elementary texts offers, in our opinion, a sufficient number from which the schools may select a book to meet the reading requirements. This list is merely suggestive and its publication does not imply that any other book of elementary French cannot be used.

French Elementary Texts

- Histoire de France—Lavissee; D. C. Heath & Co.
- Lectures Faciles pour Commencants—Lazare; Ginn & Co.
- Premiers Lectures—Lazare; Ginn & Co.
- Preparatory French Reader—G. W. Rollins; Allyn & Bacon.
- Conversational French Reader—H. Bierman & C. D. Frank; Allyn & Bacon.
- La Premier Livre—A. Meras; American Book Co.
- Elementary Reader—Joselyn & Talbot; Ginn & Co.
- Preparatory French Reader—Super; D. C. Heath & Co.
- Lectures Courantes—Fontaine; D. C. Heath & Co.
- Petits Contes de France—Meras & Roth; American Book Co.
- La Tache de Petit Pierre—Mairet; D. C. Heath & Co.
- Le tour de la France par deux enfants—Bruno; D. C. Heath & Co.
- Les malheurs de Sophie—Ceone de Legur; D. C. Heath & Co.
- Easy French Reading—V. E. François; H. Holt & Co.
- French Reading for Beginners—Kuhn; H. Holt & Co.
- Easy First French Reader—Lyms; American Book Co.
- Easy Standard French—François; American Book Co.

NEWS ITEMS

St. Ann's Academy, of Marlboro, Mass., reports that there was a notable increase in the number of pupils attending this year. The staff was strengthened by the addition of three new teachers. Two new classes in French were opened. During the past summer several of the teachers of this institution attended courses in Natural Sciences and Methods at Loyola College, Montreal. Plans for a new addition are being prepared. The work of construction will begin in the spring. A new chapel, library, auditorium, laboratory and dormitory will result.

Word comes from St. Mary's Academy, Providence, R. I.,

that the Hon. Suemas McManus gave a very interesting lecture there on Irish Folk Lore.

The Echoes, from St. Aloysius Academy, New Lexington, Ohio, states that the Alumnae Association is proving its loyalty by the generous response of each of its members to the Golden Jubilee Altar Fund. It is hoped that the \$5,000 altar will be ready as a concrete testimonial of their gratitude to their Alma Mater when the Golden Jubilee of this academy is celebrated in 1926. Sisters Sophia and Monica fittingly celebrated their Silver Jubilee a few months ago. Mr. F. Pauling recently gave a reading, "The Rivals," which displayed his genius in the presenting of literary characters. Reverend Father L. Kessler gave an excellent lecture during educational week.

St. Joseph's High School, Springfield, Ohio, reports that its library has been enriched by sets of the Catholic Encyclopedia, the World Book, the Standard Reference Work, the World Atlas, 200 volumes of English classics, and 100 reference books on sciences, mathematics and religion.

To facilitate the study of religion in high school each pupil in first and second year has been provided with a copy of "Compendium of Religion," prepared by Sister M. John Berchmans, O.S.U., to meet the requirements of the Catholic University Schedule for Affiliated High Schools. About \$1,000 worth of equipment has been added to the physical laboratory. Recently the Holy Name Society voted to give four annual awards in gold to the pupils who secure the highest marks in the Catholic University examinations for Affiliated High Schools. Accordingly, on the 12th of February, at appropriate Lincoln Day exercises, the pastor, Reverend M. J. Loney, announced the winners. Another feature of the Lincoln Day program was the awarding of the handsome bronze medal of Abraham Lincoln to John Hannon, Sr., for the best essay on Abraham Lincoln. The medal, executed by the well-known American sculptor, Mr. Charles L. Hinton, was donated by the Illinois Watch Company, Springfield, Illinois.

"Excavation of Carthage," an illustrated lecture by the eminent archaeologist and artist, Count de Prorok, was given recently at Marymount College on the Hudson. Dr. G. L. Black,

of Tarrytown on the Hudson, has generously donated the surgical equipment of a school dispensary at this academy.

Mt. St. Joseph's Academy, Hartford, Conn., reports that Dr. James J. Walsh, of New York, gave a very instructive lecture on Mother Catherine McAuley, the foundress of the Order of Mercy, and the influence of her life in the field of education and social service.

"Civic Responsibility," a lecture given by Dr. J. Lapp, of Chicago, director of the Social Action Department of the National Catholic Welfare Conference, brought home to the students the necessity of having every citizen take an active part in the government of our country.

The chemistry classes of St. Martin's Academy, Sturgis, S. Dak., have entered as contestants in the contest in charge of the American Chemical Association, the prizes for which have been offered by Mr. and Mrs. F. P. Garvan, of New York, in memory of their daughter Patricia. This contest is opened to every high-school student in the United States, and writers of the six best essays will receive free tuition and \$500 a year for four years to pay expenses at either Yale University or Vassar College.

Bishop Gereke, of Tucson, Ariz., gave the teachers and students of Mt. St. Joseph's Academy, Chestnut Hill, Philadelphia, Pa., a very inspiring talk on the occasion of his last visit to this institution. Right Reverend J. McCloskey and Bishop McGinley, of the Philippines, were among the recent notable visitors at this institution. Dr. Jas. J. Walsh is continuing his series of lectures on the Women of Shakespeare. Mr. F. Paulding has given the fifth of a series of interpretative readings during the past month. A lecture on Shakespeare and Dante and a very well rendered reading of "Othello" were given during last term by Mr. C. E. Griffith. Right Reverend Monsignor F. Kelly outlined the opportunities for the application of religion and its extension through the project, "The Catholic Extension Society." On February 6, Reverend L. L. McVay, of the Catholic University, gave a lecture on the "Art of Study." The academy library has been enriched by the donations in books and money of the former graduates and the present staff of the *Sheaf*, the academy annual.

EDUCATIONAL NOTES

THE CHRISTIAN BROTHERS AND BOY-WORK

From their very foundation, the Brothers of the Christian Schools have been actively engaged in post-scholastic and social activities in behalf of boys and young men that, in our day, have come to be known by the general term "Boy-Work."

When, one Sunday afternoon in 1699, Saint John Baptist De La Salle opened his first Sunday School for young men under the name of "The Christian Club," he inaugurated the sociological feature of the work of his Order to supplement the home and the school. In order the better to attract a large number to these Sunday meetings, says his first biographer, the Saint determined that, in addition to instruction in reading, writing, and arithmetic, they should receive lectures in designing and drafting, architecture and mechanics. In a short time the number in attendance exceeded two hundred.

For the past two centuries, following the direction and example of their saintly founder, the Christian Brothers have conducted, in addition to their regular schools, night schools, boys' clubs, social study circles, library and reading rooms, mutual-benefit associations, trades guilds, alumni societies, etc. All being organized in an effort to continue and extend their educational influence beyond the school.

This feature of the Brothers' work received a new impetus when, in a private audience given to the Very Rev. Brother Joseph, Superior General, on March 3, 1885, His Holiness Pope Leo XIII, delivered this solemn injunction:

In teaching the pupils in their classes, the Brothers have fulfilled but half their duty if they do not follow up the work and preserve them after and beyond the school through "Perseverance" societies. Tell all your religious on the part of the Pope—and the Pope must be obeyed—that they should put forth all their efforts to maintain the young men who have left their classes in Catholic principles, and in the practice of the Commandments of God and of the Church, and endeavor to keep them from joining secret societies which they are urged to do as soon as they have left school. You, Brothers, who are spread throughout the world, can thus effectively help to keep alive the Christian spirit among the people.

The Brothers have faithfully followed these injunctions. In 1898, the Young Men's Clubs under their direction in Paris celebrated the Golden Jubilee of their foundation, and those of Bordeaux, the following year. At the World's Fair held in Paris in 1900, the report showed that, at that time, the Brothers of the Christian Schools alone had 32,572 boys in 350 clubs, 21,000 in their ex-pupils associations and benefit societies, and 3,000 in residence clubs. Mr. Lamie, a member of the jury that awarded the Brothers a "Grand Prize" for this work, stated "That they had written a magnificent page into the history of Boy-Work, which was not surprising considering the part played therein by such eminent educators as Rev. Brothers Philip and Joseph, Superiors General."

Side by side with the "Patronages" or clubs grew up the "Family Home" or Residence Club, that known as the "Francs-Bourgeois" in Paris being a model of its kind, eminently successful and fruitful in results. Finally, there are the Old Boys' Societies whose special object is to retain the souvenir of the Alma Mater and to render mutual assistance, strengthening the bond of affection and loyalty for the "old school" and encouraging and guiding with fraternal solicitude the actual pupils who have followed them. For this purpose, these alumni societies have generally established special courses, scholarships, and prizes.

The general character of the various social organizations conducted by the Brothers is that they are usually linked up with their educational institutions of which they are the natural development. However, they are not intended exclusively for the ex-pupils of their schools. They are open to all. The only condition required for membership is that the members submit to the moral discipline laid down by the rules of the society. In many cases, the activities include courses of lectures on political and social economy and, usually, each society publishes a monthly magazine that serves as a bond of union between the various activities while, at the same time, conveying information, encouragement, and direction to the members.

Nor have professional associations, because of their moral influence, been overlooked. As far back as 1887, it was again the Christian Brothers who organized at Paris the "Employees Guild," which likewise served as a model for others. It is still

flourishing with over 2,000 members and conducts numerous departments, including employment bureau, lecture courses, cooperative club, mutual-benefit society, study and reading circle, etc. In connection with these, have been organized Workingmen's Syndicates, or Catholic Trades Unions, for all engaged in the various trades and occupations. All these organizations animated with the same Christian spirit yet each functioning independently, combine their efforts in behalf of the material and moral benefit of the members.

The report of the jury of the Paris Exposition above referred to says:

It is with rare wisdom that the Brothers of the Christian Schools began to take up this work of social education fifteen years ago, long before the universities and the establishment of the faculties of Social Science. The sons of Saint De La Salle thought it high time that the rising generation should be brought in touch with those lessons of experience that are gleaned from a scientific observation of the facts. Gradually, the Institute of the Brothers is extending its influence on all sides and is being encouraged in the movement by the prizes offered by the Society of Social Economy.

"The Brothers of the Christian Schools," concludes the report, "have been the first to recognize that it is not enough to make good Christians, we must also form excellent citizens. They have been, in a sense, the originators of the syndicate, corporate, and mutual-aid movement in the religious world."

In addition to these undertakings in behalf of the educational, social, and material well-being of boys and young men, the Brothers have also given special attention to their spiritual welfare and, for that purpose, conduct the now well-known Week-end Retreats for Laymen. Their famous house of "Notre Dame des Retraites" at Athis, near Paris, is one of those specially erected for that purpose. The Society of St. Benedict Labre, organized by the Brothers some forty years ago and which especially aims to develop a high type of Catholic leader, brought together in twenty-five years as many as 40,600 young Parisians at the Brothers' House of Retreats. This society has given to the Church no less than two hundred ecclesiastical and religious vocations and, at the present time, has fifty-seven of its members in the seminaries preparing for the holy priesthood.

That the Church considers this work well within the field of service of the Christian Brothers is conclusively shown by these words of the great Pontiff Leo XIII, addressed to Cardinal Massaja:

I have learned with very special satisfaction that the Brothers of the Christian Schools direct a certain number of societies for young men. I should be delighted to see these "perseverance" societies multiplied more and more in their Institute. Being very numerous in France and in other countries, they, perhaps better than any other Order, can prevent the recruitment of the ranks of Freemasonry by keeping in touch with their pupils through "perseverance" societies. This point is part of their mission.

Yet another phase of Boy-Work, the care and education of dependent and delinquent boys, is being carried on by the Christian Brothers with marked success. They conduct establishments of that kind in many of the large industrial centers of the world, notably at New York, Albany, Philadelphia, Toronto, Manchester, Glasgow, Rome, Genoa, Vienna, etc. The New York Catholic Protectory with its 1,800 boys is, perhaps, the largest and most complete of its kind in the world.

In conjunction with this work, numerous Vocational Schools are established so that boys may be properly equipped and trained to take their places intelligently and successfully in the factory, the farm, or the office, according to their aptitude and inclination. The Art Schools of St. Luke in Belgium, and the Schools of Arts and Crafts at Rheims, Erquelinnes, Rome, Turin, and Bogota, are typical technical trade-schools that are officially recognized as of the highest order. The Agricultural Schools of the Brothers at Lincolndale, N. Y., and at Guernesey, are models of their kind and offer the only satisfactory solution to the problem of keeping young people on the farm by giving them an intelligent grasp and appreciation of agriculture as a profession.

Speaking of such worthy efforts as these in behalf of boys, a leading American educationist says:

These followers of De La Salle do not seem to see anything new in this parental relation to the backward, dependent boy, for they are but cleaving to the ideal of their founder—the old ideal of personal service, of personal responsibility, of putting

self aside for the love of humanity, of sacrificing self that others may advance and doing all this for the love of God and of country. Glorious ideal and worthy of the sincerest emulation.

THE AMERICAN HISTORICAL ASSOCIATION AND HISTORY TEXTBOOKS

The following resolutions were adopted by The American Historical Association at its annual meeting held at Columbus, Ohio, December 27 to 29, 1923:

Whereas, There has been in progress for several years an agitation conducted by certain newspapers, patriotic societies, fraternal orders, and others, against a number of school textbooks in history and in favor of official censorship, and

Whereas, This propaganda has met with sufficient success to bring about not only acute controversy in many cities but the passage of censorship laws in several states, therefore, be it

Resolved by The American Historical Association, upon the recommendation of its Committee on History Teaching in the schools and of its Executive Council, that genuine and intelligent patriotism, no less than the requirements of honesty and sound scholarship, demand that textbook writers and teachers should strive to present a truthful picture of past and present, with due regard to the different purposes and possibilities of elementary, secondary, and advanced instruction; that criticism of history textbooks should therefore be based not upon grounds of patriotism but only upon grounds of faithfulness to fact as determined by specialists or tested by consideration of the evidence; that the cultivation in pupils of a scientific temper in history and the related social sciences, of a spirit of inquiry and a willingness to face unpleasant facts, are far more important objectives than the teaching of special interpretations of particular events; and that attempts, however well meant, to foster national arrogance and boastfulness and indiscriminate worship of national "heroes" can only tend to promote a harmful pseudo-patriotism; and be it further

Resolved, That in the opinion of this Association the clearly-implied charges that many of our leading scholars are engaged in treasonable propaganda and that tens of thousands of American school teachers and officials are so stupid or disloyal as to place treasonable textbooks in the hands of children is inherently and obviously absurd; and be it further

Resolved, That the successful continuance of such an agitation must inevitably bring about a serious deterioration both of textbooks and of the teaching of history in our schools, since self-respecting scholars and teachers will not stoop to the methods advocated.

REVIEWS AND NOTICES

Modern High School Algebra, by Webster Wells and Walter W. Hart. Boston: D. C. Heath & Co., 1923. Pp. x+466.

This algebra is the culmination of an effort on the part of its authors to produce a truly modern textbook for the beginner. The authors have endeavored to give to teacher and pupil alike the benefits of their own teaching experiences covering the past ten or more years, and also to incorporate into their new text suggestions made in recent reports of the National Committee on Mathematical Requirements and of the College Entrance Requirements Board.

The first thirty pages are devoted to introducing the student into the use of the literal quantity. The transition from arithmetic to algebra is amply provided for by the traditional use of formulae, and the solution of simple equations such as are found in some texts on higher arithmetic. Positive and negative numbers are introduced by appealing to the students' experience with quantities of opposite sense. We regret to find so little use made of the representation of signed numbers along a line. Treating the multiplication of signed numbers almost simultaneously with their addition is good because it is logical. The rules for signs in multiplication are developed by assuming the commutative law to hold for negative numbers as well as for positive numbers.

Chapter III is devoted to the addition and subtraction of polynomials. A chapter on parentheses follows as a natural sequel to this chapter. In the chapter on multiplication of polynomials it seems that a set of oral examples on the multiplication of two binomials would have made an excellent preparation for the chapter on factoring. These exercises are offered in the chapter on special products and factoring.

Simple equations and properties of equations follow in Chapter VII. Chapter VIII, devoted to special products and factoring, is excellent and leaves very little, in fact, for a teacher to do for a pupil who has the happy faculty of reading his text intelligently. Quadratic equations solvable by factoring are properly introduced at this time. Teachers who have had to teach from textbooks less modern will welcome the paragraph

on H. C. F. as supplementary to the work on factoring, and the exclusion of the old-type lengthy and useless examples on H. C. F. of polynomials of many terms. Multiplication and division of fractions are treated earlier than the addition of fractions in Chapter IX, a change which, it seems strange, had not been thought of many years ago. Simple cases of complex fractions are included in Chapter IX, followed by a treatment of simple fractional equations and the elements of ratio and proportion in Chapter X.

A chapter on graphical representation precedes by way of introduction to, but not as a necessary condition to, the study of simultaneous equations. Similarly we find a study of square root and quadratic surds leading into the chapter on quadratic equations. As a "Supplementary Topic" we find "Quadratic equations having two unknowns." Only types solvable by substitution are treated.

Chapter XV is devoted to advanced topics in factoring, ingeniously introduced at a time when the pupil is supposed to be more mature and prepared for them. Simultaneous quadratic equations, together with their graphical solution, follow. The remaining chapters are devoted to an exposition of the elements of Theory of Quadratics, Exponents Other Than Integral, Radicals, Logarithms, Progressions, Binomial Theorem, Variation, Determinants, and Trigonometry of the Right Triangle.

Naturally it is not intended that the entire text be covered in one year. Many topics appear in sections marked "Supplementary Topics." To quote the authors in their preface: "Omission of them (supplementary topics up to page 288) leaves a minimum course which every school can master in a single year." Throughout the text especial emphasis is placed on the solution of equations and problems which are for the most part new, up-to-date, and practical.

OTTO J. RAMLER, PH. D.

We and Our History, a Bibliography of the American People, by Albert Bushnell Hart, Professor of Government in Harvard University. New York: American Viewpoint Society, Inc., 1923. Pp. 320.

The American Viewpoint Society is apparently authorized by

the Secretary of Labor to state that its production of films and educational books is done in furtherance of the policies of his department for citizenship training. Under the editorship of Mr. Donald Stuart, Professor Hart, of Harvard, writer, editor and publicist, contributes *We and Our History* to the elementary series in social studies. There is little doubt but that this book will be widely used in the public schools and deservedly so. The eighteen full page drawings, fifty pictorial charts, and seven hundred and fifty half-tone illustrations are sufficient to arouse the interest of any adult, and should make the text run smoothly for the young reader.

This is not a history of the United States, for its outline is not full, nor does it aim to tell the whole story, but to emphasize selected essentials in the way of men, laws, documents, and parties which best set forth the true national significance. A text book should be used with this volume as supplementary reading, but no well ordered school should be without a copy. Naturalized citizens or schools of Americanization will find it especially helpful. One can in a pictorial way see the development of America socially, politically, economically, and geographically. Indeed, the text does little but interpret the illustrations and weave them into a narrative.

Good citizenship, patriotism, and an understanding love of country are taught without coloring the tone of writing, but rather by properly selecting the incidents to be enlarged upon. No unit in the population can well object, for presumably an attempt has been made to conform with the rules laid down by every type of conscientious objector to the way American history has been written. Possibly this explains the use of the sub-title, "A Biography of the American People." However, it is well to relate the story with care when training the young and not over-emphasize the failings of the fathers nor the mistakes of statesmen.

The usual proportions have been rudely changed by assigning half of the book to the period after 1865. This permits stressing the economic side, the rise of a new South, expansion into the Indian country, money and tariff, immigration, mining, industrial advance and the like. There is no note of hostility to the immigrant, but rather appreciation and encouragement. The careers of such successful immigrants as Hill, Carnegie, Gom-

pers, Secretaries Davis, Wilson, and Lane; Ambassadors Straus, Schurman, and Morgenthau, and Carl Schurz, should inspire the immigrant with visions of American opportunity and teach thoughtless native born citizens to what station the lowly entrant at Ellis Island may attain. For this period special attention is given to Robert E. Lee, U. S. Grant, Grover Cleveland, the "self-educated president"; James J. Hill, Theodore Roosevelt, Julia Ward Howe, "writer, reformer and home-keeper"; Samuel Clemens, and Woodrow Wilson.

Toleration is a marked quality, for there is no touch of sectional or partisan bias, nor any sectarian note. Several illustrations as well as references to the work of the Catholic Church and Catholics made in connection with the discoveries and early explorations, the Christianizing efforts of Spaniards and Frenchmen, Baltimore and religious freedom, Father Mathew and temperance, Bolivia and South American independence, and the like will give pleasure to the teacher and pupil in parochial schools.

Well written, interesting and simple in style, slightly journalistic, the volume is most attractively done. Both texts and illustrations are brought up to the minute, even to Coolidge's oath of office. The appendix contains the Mayflower Compact, a facsimile of the Declaration of Independence, the printed document, the Articles of Confederation, an analyzed version of the Constitution, with a facsimile of the first page, and a list of questions and problems arranged chronologically. Assuredly, this book in duplicate on the reference shelf will lighten the labor of teachers and enkindle the interest of pupils.

RICHARD J. PURCELL.

Books Received

Educational

Courtis, Caldwell, *Then and Now in Education*. New York: World Book Company, Yonkers-on-Hudson, 1923. Pp. 392. Price, \$2.20.

Donnelly, Francis P., S.J., *Art Principles in Literature*. New York: The Macmillan Company, 1923. Pp. 144. Price, \$1.50.

Downey, June E. Ph.D., *The Will-Temperament and Its Test-*

ing. New York: The World Book Company, Yonkers-on-Hudson, 1923. Pp. 333. Price, \$2.10.

Higgins, Rev. James, *Fundamentals of Pedagogy*. A textbook for Catholic Teachers. New York: The Macmillan Company, 1923. Pp. 255.

Rusk, Rogers D., *How To Teach Physics*. Philadelphia: J. B. Lippincott Co., 1923. Pp. 180.

Smith, E. E., *Heart of the Curriculum*. New York: Doubleday, Page Company, 1924. Pp. 355. Price \$1.50.

Gregory, Sir Richard, *Discovery, or The Spirit and Service of Science*. New York: The Macmillan Company, 1923. Pp. 329.

Textbooks

Bourne and Benton, *Story of America and Great Americans*. New York: D. C. Heath and Co., 1923. Pp. 310.

Center, Stella Stewart, A.M., *Workaday English*. New York: The Century Co., 1923. Pp. 205.

De Mille, A. B., *American Poetry*. Boston: Allyn & Bacon, 1923. Pp. 339. Price, \$1.00.

Cookson, C., *Cicero, The Advocate*. New York: Oxford Press, 1923. Pp. 166. Price, 90 cents.

Edgerton, Edward I., B.S., and Carpenter, Perry A., Ph.B., *First Course in Algebra*. Boston: Allyn & Bacon, 1923. Pp. 392. Price, \$1.20.

Romera-Navarro, *Historia de Espana*. New York: D. C. Heath & Co., 1923. Pp. 223.

Smith and Reeve, *Essentials of Algebra*. Boston: Ginn and Co., 1923. Pp. 351. Price, \$1.24.

Stevens, Lou Belle, and Van Sickle, James H., *The Pilot Arithmetics*, Books I and II. *Teachers' Manual for Grades One to Four*. New York: Newson and Company, 1923. Pp. 272.

French

Chardenal, C. A., *The Phonetic Complete French Course*. Boston: Allyn & Bacon, 1923. Pp. 448.

Dumas, Alexandre, *Les Trois Mousquetaires*. Boston: Allyn & Bacon, 1923. Pp. 237. Price, 80 cents.

Leeman, Jean, *Paris Pittoresque*. Boston: Allyn & Bacon, 1923. Pp. 197. Price, \$1.20.

Roz, Firmin, *Literature Francaise*. Boston: Allyn & Bacon, 1923. Pp. 333. Price, \$1.60.

Smith & Langer, *Blanchette*. New York: D. C. Heath & Co. Pp. 104. Price, 92 cents.

Philosophical

Joyce, Geo Hayward, S.J., *Principles of Natural Theology*. New York: Longmans, Green and Company, 1923. Pp. 606. Price, \$2.80.

O'Neill, Rev. John, D.Ph., *Cosmology*. New York: Longmans, Green and Co., 1923. Pp. 302. Price, \$4.20 net.

Shalle, Michael W., S.J., *Scholastic Philosophy*. Philadelphia: Peter Reilly Co. Pp. 403.

Science

Cassirer, Ernst, *Substance and Function and Einstein's Theory of Relativity*. Chicago: Open-Court Publishing Company, 1923. Pp. 465.

Miscellaneous

Boyton, Neil, S. J., *In God's Country*. New York: Benziger Brothers, 1923. Pp. 403.

Chambers, Mary D., *Teens and Twenties*. New York: P. I. Kennedy & Sons, 1923. Pp. 190. Price, \$1.50.

Davis, James J., *The Iron Puddler*. Indianapolis: Bobbs-Merrill Co., 1923. Pp. 276.

Garesche, Edward F., S.J., *Sodality Conferences*. New York: Benziger Brothers, 1923. Pp. 361.

Harlow, Ralph Volney, *Samuel Adams*. New York: Henry Holt & Co., 1923. Pp. 363. Price, \$2.25.

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